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ABSTRACT

This final report of the third year of the Southern University-Tulane University Regional Head Start Evaluation and Research Center is a statement of activities engaged in since September 1968. Chapter I includes an introduction and description of the centers; Chapter II, evaluation guidelines, test battery, quality control, evaluation design and description of evaluation instruments. Chapter III contains the intervention design. Chapter IV presents feasibility study involving parent groups from two day care centers in Little Rock, Arkansas. Chapter V contains a statistical analysis, discussion of T-test results, and findings. Appendices include means and T-tests for the intervention tables, analysis of variance charts, and a study entitled "The Role of Incentives in Discrimination Learning of Children with Varying Preschool Experiences." (MS)

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ANNUAL REPORT

November 28, 1969

Regional Evaluation and Research Center
for Head Start

Southern University
Baton Rouge, Louisiana

Edward E. Johnson, Director

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This E & R Center was supported by Subcontract
OEO 8-4123

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ACKNOWLEDGMENTS

The contributions of the administration, faculty and staff of Southern University to the operation of this center are gratefully acknowledged. Special appreciation is due to two former members of the staff of this center, Miss Lucie McGee and Mrs. Johnnie Ricard, for the initial writing of this report.

Special thanks are due to the administrators and staff of Community Advancement, Inc. Without their cooperation and support, the investigations reported here could not have been carried out.

STAFF

E. E. Johnson, Director
 Betty J. Franklin, Coordinator
 Lottie Robinson, Secretary
 John Stabler, Research Consultant

RESEARCH ASSISTANTS

(Duties included Interviewing, Testing, Observing,
 Coding, Teaching)

Helen Burton
 Margie Jackson
 Georgiana Johnson
 Willie E. Johnson
 Lillie Louis
 Johnnie Ricard
 Brenda Sterling
 Amelia Wilkerson
 Velma Wilkerson
 Wanda Williams

TESTERS

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 Darnell Thomas
 Hayworth Bradley
 Lillian Braggs Hall
 Margaret Pereboom

INTERVIEWERS

Betty Preston
 Brenda Grant

STATISTICAL CONSULTANTS

B. R. Farthing
 K. L. Koonce
 Prentiss Schilling

CLERICAL ASSISTANT

Dorothy London

KEY PUNCH OPERATOR

Alice Singh

STUDENT ASSISTANTS

Ruth Collins
Mable Zeigler
Wade Mackey
Lee Stokes

CENTER PERSONNEL

Project Directors

1. Dr. Edward E. Johnson, Director of the Southern University component of the Southern University-Tulane University E & R Center, is Associate Dean of the University and he is an experimental psychologist whose research interests and background vary from human engineering problems of hand grenade and tank design to the study of socially and economically disadvantaged children. Currently he functions as a consultant in the National Collaborative Child Development Program of the United States Office of Health, Education and Welfare and is Clinical Professor in the Department of Psychiatry and Biobehavioral Sciences of the Louisiana State University Medical School.
2. Betty J. Franklin, B. S. Business Education, Southern University. Payroll Accountant, Mississippi Valley State College, Business Education Teacher, Central Memorial High School, Coordinator, Head Start E & R Center, Miss Franklin currently is working toward the masters degree in Administration & Supervision.

RESEARCH ASSISTANTS*

1. Mrs. Helen Powell Burton holds a Bachelor of Arts degree in Elementary Education from Southern University.
2. Miss Margie Jackson holds a Bachelor of Science degree in Secondary Education from Southern University.
3. Mrs. Georgiana A. Johnson holds a Bachelor of Arts degree in Elementary Education from Southern University.
4. Mrs. Willie Coleman Johnson holds a Bachelor of Arts degree in Psychology from Southern University.
5. Mrs. Lillie Thornton Louis received her Bachelor of Arts degree in Elementary Education from Southern University.
6. Mrs. Johnnie Jackson Ricard received a Bachelor of Arts degree from Southern University in Psychology.
7. Mrs. Bronda Shamlin Sterling holds a Bachelor of Arts degree in Psychology from Southern University.
8. Miss Amelia Wilkerson holds a Bachelor of Arts degree in Elementary Education from Southern University.
9. Miss Velma Wilkerson holds a Bachelor of Science degree in Business Education from Southern University.
10. Mrs. Wanda West Williams received her Bachelor of Arts degree from Southern University in Psychology.

*All research assistants received specialized training in the methods and techniques of the experimental University of Hawaii Preschool Language Curriculum. They were also trained intensively in test administration by experienced examiners.

EXAMINERS*

1. Hayworth L. Bradley, Director of Testing Services at Southern University. He received the Bachelor of Arts degree in Psychology from North Carolina College, and the Master of Arts in Psychology from Michigan State University. He is a Ph.D. candidate in Educational Psychology, and an NDEA Fellow at Michigan State University. From 1963-1964 he served as a psychometrist, Morrison Training School, Hoffman, North Carolina.
2. Mrs. Margaret Pereboom, received a Bachelor of Arts degree in Psychology from the University of California at Los Angeles and the Master of Arts degree from Texas Technological College in experimental psychology. She has been employed as staff assistant for the Pacific Telephone and Telegraph Co., working in and later supervising the pre-employment testing portion of the Central Employment Office.
3. Mrs. Lillian B. Hall, holds the Bachelor of Arts degree from Southern University in Psychology. She received intensive training in Stanford-Binet administration from a team of psychologists.
4. Edward Massenberg, is an Assistant Professor of Special Education at Southern University. A psychometrist on a special education team, he evaluates the mental abilities of elementary school children who are experiencing some degree of learning difficulties.
5. Mrs. Betty B. Preston, received the Bachelor of Arts degree in Elementary Education and the Master of Arts degree from Southern University. She is a laboratory assistant in Psychological Testing Services.
6. Miss Darnell L. Thomas, holds the Bachelor of Science degree in Elementary Education from Le Moyne College, Memphis, Tennessee. She received the Master of Science degree in Special Education from the University of Illinois, with further study at Indiana University at Bloomington. She is presently an Assistant Professor of Special Education at Southern University.

*Most of the Research Assistants also served as examiners.

<u>UNIVERSITY</u>	<u>DIRECTOR</u>	<u>REGION</u>
Temple	Dr. Theron Alexander	Urban Philadelphia, Central and Eastern Kentucky, Eastern Tennessee (Appalachia), West Virginia, Maryland, and Delaware.
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Bank Street College	Dr. Herbert Zimiles	New York City, Maryland, Delaware, New Jersey, and D.C.
Hawaii	Dr. Dorothy Adkins	Hawaii, Guam, Alaska Samoa, Washington, and Oregon.
Syracuse	Dr. William Meyer	New York State, Western Pennsylvania, and Eastern Ohio.
Michigan State	Dr. Robert Eger	Wisconsin, Michigan, Minnesota, Western Ohio, and Iowa.
Texas	Dr. John Pierce-Jones	Texas, New Mexico, Arizona, Oklahoma, and Utah.
Boston	Dr. Frank Garfunkel	Massachusetts, Vermont, New Hampshire, Maine, Rhode Island, Connecticut.

<u>UNIVERSITY</u>	<u>DIRECTOR</u>	<u>REGION</u>
South Carolina	Dr. Myles Friedman	South Carolina, North Carolina, Virginia, Georgia, Florida.
U. C. L. A.	Dr. Carolyn Stern	California, Nevada.
Southern	Dr. Edward Johnson	Western Louisiana, Western Mississippi, Arkansas.
Tulane	Dr. Shuell Jones	Eastern Louisiana, Eastern Mississippi Alabama.

CHAPTER I

INTRODUCTION

This is the final report of the third year of the Southern University-Tulane University Regional Head Start Evaluation and Research Center. It is a statement of activities engaged in since September, 1968, under Contract No. OEO 8-4123. During the year Southern University and Tulane University carried out their evaluation and research efforts independently, although the two centers still were operating, technically, under the same contract.

The region covered by the Southern-Tulane Center included Louisiana, Alabama, Mississippi, and Arkansas. Tulane University was responsible, primarily, for eastern Louisiana, eastern Mississippi, and all of Alabama; Southern University was responsible, primarily, for western Louisiana, western Mississippi, and all of Arkansas. In spite of the independent functioning of the two centers, both in terms of budgetary decisions and research and evaluation efforts, fairly close and helpful relationships were maintained throughout. Hereafter this report will be limited to the evaluation and research efforts of the Southern University E & R Center.

The statement that poverty is too much with us is an inescapable truism. All efforts of this center have been geared to encompass the overall philosophy and approach of Head Start, which seeks greater opportunity for children of the poor to escape the dragnet of poverty.

The Southern University E & R Center has conceived of its mission as being two-fold. First, we must ferret out by empirical means information that will be of practical value to those who have the

responsibility of working with children. In addition, we must add to the already vast storehouse of knowledge about human behavior in ways that may not have immediate practical significance.

This report must be viewed within the framework of relatively limited time for independent, theoretically based research. Most time and effort had to be allotted to the evaluation-related intervention study to be referred to herein.

It must be noted that although Southern and Tulane Universities were officially related contractually in their E & R centers, actual collaboration in the evaluation intervention took place between Southern University and the University of Hawaii. To a great extent, what happened in the evaluation represented either replication or close similarity between the approaches of the two centers.

In our opinion, the 1968-69 evaluation has been adequate, and real strides forward have been made in the area of research. This document contains a presentation of activities engaged in by this center during the period referred to above and a detailed depiction and analysis of data obtained therein.

DESCRIPTION OF THE CENTERS

Presently, we at Southern University are affiliated with five Head Start Centers. Of these five centers, Ryan, Harding and the Community Association for the Welfare of School Children (CAWSC) are located in Baton Rouge, La., and Shiloh and Booker Homes are situated in Little Rock, Arkansas.

Harding Head Start Center is situated approximately three miles from Southern University's campus and is two miles from Ryan Airport. On the right side of the center is an Auto Salvage Shop which is fenced in. To the left of the center, one will find a farm which is cultivated by prisoners from the parish jail. On the grassy lawn of Harding an American flag flies.

The building which houses Harding is relatively new, boasting central heat and air conditioning. It was previously a funeral home but was renovated for Head Start purposes.

The right side and the back of the center are fenced in. These areas serve as the playgrounds for the children. A great portion of this areas is covered with concrete and therefore, unsafe for vigorous playing. A sliding board, two-swing sets, two sets of see-saws, and a monkey bar constitute the playground equipment. There are eight rocking horses, two wagons and six cars that are also used for outdoor play. All of the toys bear definite signs of wear and tear.

Harding Head Start Center, occupying 8,913 sq. ft. of floor space, has an enrollment of 146 children. There are nineteen rooms in the building; ten of these are classrooms. There are three restrooms housing nine commodes and seven facebowls. There is also a nurse's station, a conference room, executive offices, and a kitchen.

Ryan Head Start Center is located in Ryan Field Building 501, about one-fourth mile from Ryan Airport. The building, an old frame structure, was once used by the Army Reserve and is presently in very poor condition. The heating and light facilities are quite inadequate.

The Ryan Center is surrounded by Live Oak trees. The immediate area is unincorporated. In the rear of the building is a fenced-in area, mostly grassy, used as a playground. The equipment there consists of a merry-go-round, a sliding board, a swing set, and four rocking boats. Though these toys are battered, they are usable.

At Ryan, there is individual office space for the head teacher, the secretary, the nurse, the social worker and the parent involvement worker. There also is a conference room. The restroom facilities are adequate, five restrooms, nine commodes, eight facebowls. There is a kitchen, but it is not used for cooking meals. The food is cooked at Harding and brought to Ryan's kitchen by truck. This center occupies 9,784 sq. ft. of floor space and has an enrollment of 146 students. The front lawn is small, and there is a flag pole from which flies the American flag.

CAWSC Head Start Center is located within the city limits of Baton Rouge in an area known locally as Eden Park. It has an enrollment

of approximately 60 children. The neighborhood where the center is located is very rundown and unkempt. The streets are littered with paper, beer cans and soda pop bottles. There are many wrecked and/or unused cars that should be towed away. Many of the buildings are in very bad shape and should be demolished.

The deterioration of this neighborhood can also be attributed to the many night clubs and cafes found here. CAWSC is surrounded by these establishments. At night, the center's parking lot is utilized by the patrons of these places.

CAWSC is housed in the rear of a freshly painted stone building, built on a 60 by 125 lot. There is adequate parking space for faculty and staff members, but in rainy weather, the parking area is inconvenient, since only half of it is paved.

The play area is adequate for the 60 children. It is fenced in and half paved. There is a patio which is paved and covered. The sand table, cots, wooden toys, two battered wagons and tricycles are kept on this patio. There are ample toys and they are all well-used. On the playground, there is one gym set, eight swings, one sliding board, one monkey bar and a climbing turtle.

CAWSC has four classrooms, a supervisor's office, a kitchen, and another office which is shared by the secretary and the nurse.

The Greater Shiloh Day Care Center located in Little Rock, Arkansas, consists of one large basement floor in the Greater Shiloh Baptist Church. This basement has two very small adjacent rooms. One room is used as an office for the supervisor and the other is used as a closet.

There are three classes in the large room: one class in each corner in the same end of the room and one class in the center of the room. There are approximately 45 children enrolled here.

There is also a kitchen in the basement. Here hot food is prepared daily for the children. The kitchen is in clear view of the classes. The playground is small with little or no equipment.

Shiloh is located in a rundown business district. In the immediate vicinity, one will find small stores, a trucking company, churches and a number of service stations.

Booker Homes is situated on the outskirts of an industrial area in a predominately Negro neighborhood of Little Rock. The street leading to the development divides an upper middle income housing and a lower middle income housing area. Booker Homes is on the right of the street and the contrast between the sides is immediately noticeable.

Located on Granite Mountain in a low-rent housing development, the day care center was converted from a unit of the housing development. By taxi, it is approximately fifteen minutes from downtown. An elementary school is approximately four blocks from the area.

The walls separating the units were removed in order to give a schoolroom effect. Five rooms are used as classrooms, one as the supervisor's office and one for the kitchen. The living rooms were partitioned to serve as make shift classrooms and dining area. Partitions also serve as the children's individual cubby holes.

The heating system seems adequate, the building being centrally heated and cooled. There are two restrooms at each end of the building.

The older children use one end and the younger children use the other. These restrooms are small and are not restricted by sex. The kitchen is centrally located, housing one refrigerator, two stoves and a few cabinets.

A broken fence surrounds the building and a very small grassless playground area. There was no visible outside play equipment other than a battered swing and a merry-go-round.

CHAPTER II

EVALUATION GUIDELINES

- I. Sample - Total N should not be less than 120 children after attrition.

- A. Total Pre 142
- B. Total Post 116

The tremendous decrease in sample was due to re-investigation in mid-January of total family incomes of Head Start children and many total family incomes exceeded amounts that would make child eligible for Head Start.

- II. Sample Age- Children should be between 3 1/2 and 5 1/2 at time of testing.

- A. Two children did not meet age criterion
- B. Other samples did meet criterion

- III. Sample class - the class should be pre-kindergarten (3 1/2 to 4 1/2) or kindergarten (4 1/2 to 5 1/2), with at least 10 of the 15 children within one age group.

- A. 1 class consisted of children of pre-kindergarten age.
- E. 9 classes consisted of children of kindergarten age.

- IV. Sample eligible child - The sample-eligible child should not have any pre-school or Head Start experience prior to the Evaluation Study.

All sample children in the Southern University sample had had summer Head Start experience (memo of February 19, 1969), in that the situation of prior summer Head Start for all children in the Head Start program generally prevails throughout our tri-state region of Louisiana, Mississippi and Arkansas.

- V. All measures were administered in English.

- VI. Pre-testing should be conducted during the 4th, 5th, 6th and 7th week of Head Start class.

Pre testing was conducted during the 20th week and thereafter because of our reckoning the time of the start of testing from the first week of June which was the start of summer Head Start.

- VII. Post-testing should be conducted during the last four weeks excluding the very last week of the Head Start class.

Post-testing could not be conducted during the last four weeks of the Head Start class because the last month of class meetings (May) was devoted to closing activity preparation.

- IX. Time interval - six months between pre and post-testing.

The time interval was 4 1/2 months due to the fact that the last month of Head Start class time is devoted to preparations for closing activities therefore, making it impossible to have a six month time interval between pre and post-testing.

- X. At least fifty per cent of the post was administered by the same tester.

- XI. Inter-test interval

The inter-test interval recommended could not be observed, because of limited testing time and lack of test facilities (tests could only be administered to the children effectively in the mornings after 9:30).

- XII. OSCI observations were done on different days of the week as stipulated.

TEST BATTERY

All guidelines set forth for the test battery were observed with the following exceptions:

1. The South Carolina list added to post Inventory of Factors Affecting Test Performance.
2. The Sociometric was not administered.
3. The Etch-a-Sketch was not administered.
4. The pre-tests (ITPA) for the intervention study were administered within 4-7 weeks of the beginning of the intervention study.
5. One sample class did not receive pre-parent interviews.
6. No six-month interval was observed with any instrument because of Head Start center's closing schedule.

Instruments Executed

Stanford-Binet
 Inventory of Factors Affecting Test Performance
 Family Interview
 Birch Response Style
 Revised Preschool Inventory and Animal House
 Child Master Data Form
 Gumpgookies
 Health Form
 Class Facilities and Resources Inventory
 Characteristics of Teaching Staff
 Post Program Interview With Teacher
 Checklist of Administrative Variables
 Post Observation Inventory
 ITPA
 Census Forms

QUALITY CONTROL

Stanford-Binet, Factors Affecting Test Performance, Birch

1. Four individuals administered Stanford-Binet tests to the sample children of the Southern University E & R Center. Two of the persons have administered Stanford-Binets for this center over the past two years. A third person joined the Southern University faculty at the beginning of the 1968-69 academic year in the capacity of Director of Testing. The fourth tester, a recent graduate in psychology from Southern University had worked directly with the Stanford-Binet test over a period of two years. Prior to her actually administering Binet tests this year, she received intensive training over a period of three weeks, which included practice administrations to non-Head Start children. This training was carried out both by the director of the center and the newly arrived director of testing.
2. All Binet protocols were scored at least twice by at least two different testers. In addition each protocol was proofed for ordinary logical errors or omissions. These procedures pertain also to the Birch Response Style.
3. The double coding method was used on the Binet, i.e., each protocol was coded separately by two individuals.

WPPSI & PSI

1. These two tests were studied intensively over a period of three weeks. Each of the participants tested every other participant, eight adults and seven children. Criticisms of the performances were interchanged, with special emphasis on timing and scoring.
2. Each WPPSI and PSI protocol was checked independently for accuracy by two examiners. When changes were introduced in administration of the PSI, special sessions were held in order to assure that each individual was handling the changes correctly.

Parent Interview

1. All interviewers and testers participated in a three-day pre and two-day post training session conducted by the Washington task force.
2. Each participant interviewed three Head Start mothers. Every completed schedule was checked for accuracy by an independent interviewer. Emphasized in this check was editing so that no blanks would be left under any item.
3. All interviewers met periodically to discuss both general and specific coding problems and the significance of sufficient probing for insuring correct coding of responses was stressed.
4. All interviewers were required to become very familiar with coding, especially in the cases of items dealing with Child Rearing Practices. When necessary, the mother was asked to re-enact a scene or describe how it happened. The interviewer was admonished constantly against making assumptions about any of the information.

OSCI

1. Each observer participated in a three-day training program administered by representatives of UCLA, and each was checked for reliability and observed three classes.
2. Observers met periodically to discuss both general and specific problems in recording observations.
3. When memorandums were received relative to the OSCI, special sessions were held in order to assure that each individual observer was handling the changes and/or additions correctly.

Gumpgockies

1. Manual studied intensively.
2. Testers administered test to each other.
3. Testers administered test to 4 to 5 non-sample children.
4. Met periodically to discuss any problems in administration or recording that individual testers might have experienced.

POT

1. Manual studied intensively.
2. Took under advisement additional information received from E & R Center responsible for instrument. (Syracuse)

Post Program Interview With Teacher

1. Training session conducted by Washington task force.
2. Practiced administration with each person executing instrument before actually administering interview to teacher.
3. Training and practice sessions consisted of discussions and demonstration of instrument.

ITPA

1. Studied manual.
2. Administered test to non-sample children.
3. Administered test to other staff members.
4. Concentrated on timing and scoring.
5. Listened to record - "Auditory Sequential Memory" - to aid in achieving correct rhythm since testers were accustomed to Stanford-Binet type rhythm.

HEAD START EVALUATION AND RESEARCH CENTER
SOUTHERN UNIVERSITY
SOUTHERN BRANCH POST OFFICE
BATON ROUGE, LOUISIANA 70813

CONSENT FOR TESTING AND RESEARCH PARTICIPATION 1968-69

Dear Parent:

The class in which your child is enrolled at _____
(Name of H. S. Center)
has been selected as a sample for the national evaluation of Project Head Start. Your child has been selected as one of the participants in an evaluation of the effectiveness of the Head Start Program. We would like your permission to administer certain tests which are part of the national evaluation and have your child participate in our Language and Enrichment Research Classes. All tests will be given by professionally qualified people, and none will endanger your child's safety or welfare. Your cooperation will be greatly appreciated, since this is very important in helping to develop programs for young children that will help them to lead happy and successful lives.

If you are willing to have your child participate in this effort, you may indicate your permission by signing below.

AUTHORIZATION

I give my permission for _____ to have
(Child's Name)
psychological evaluation and testing, as deemed necessary by psychologists participating in the Head Start Program.

(Date)

(Signature of parent or guardian)

Sincerely yours,

Edward E. Johnson, Ph.D.
Director

(Miss) Betty J. Franklin
Coordinator

HEAD START EVALUATION AND RESEARCH CENTER
SOUTHERN UNIVERSITY
SOUTHERN BRANCH POST OFFICE
BATON ROUGE, LOUISIANA 70813

PARENT INTERVIEWS 1968-69

Dear Parent:

We at Southern University are studying the families and needs of children in our community. This letter is to introduce _____, one of our staff members who would like to speak with you for a few minutes.

We would greatly appreciate your help and cooperation.

Sincerely yours,

Edward E. Johnson, Ph.D.
Director

EVALUATION DESIGN

From the original random sample of 150 children, drawn from the three Head Start centers, 142 remained as part of the evaluation group. Six test instruments were administered to each child in the sample. The tests were administered on a pre-test, post-test basis within approximately a three-month interval.

The Stanford-Binet, Factors Affecting Test Performance, and the Birch Response Style were administered to each child as components of one test. The Illinois Test of Psycholinguistic Abilities, involving 10 of 12 subtests, followed the administration of the Binet-Birch-Factors series. The Caldwell-Soule Preschool Inventory and the Animal House subtest of the WPPSI were also administered. The Gumpgookie--a test of motivation to achieve--was administered next. The post-test for the Gumpgookie was administered after several revisions.

An observation of Substantive Curricular Input was done on the regular Head Start teachers & special classes by the E & R Center staff members on four occasions during the evaluation year in November, January, March and April. A checklist of Administration Variables was also administered by each special teacher to the regular head start teacher with whom she worked. The Post-Program Interview and the Post-Observation Teacher Rating Scales (P.O.T) were other similarly administered instruments. The Parent Interview Form was administered after working hours and at times convenient to the parents by the Southern University E & R Center staff and independent interviewers. In order to check on the availability and accessibility of the center and its

resources, a Class Facilities and Resources Inventory was completed by the "head teacher" at each center.

The testers were members of Southern University's E & R Center staff, Southern University faculty members, and a staff member of Community Advancement. All were trained in psychological testing and techniques or received intensive specialized training in test administration.

DESCRIPTION OF EVALUATION INSTRUMENTS

Stanford-Binet

Terman's first revision of the scale originally devised by Binet and Simon was published in 1916 and constituted a pioneering effort to apply the methods of precision which were being developed in the new science of psychology to the measurement of intellectual abilities. This revision of the Binet-Simon scale incorporated the features that characterize scales of the Binet type; that is, the use of age standards, the kinds of mental functions brought into play, and the concept of measurements of a "general intelligence" which functions as mental adaptability to new problems.

In 1937, Measuring Intelligence, the most extensive and comprehensive of the Stanford revisions, was published by Terman and Merrill. This second revision of the scale, following upon years of experience in the practical use of intelligence tests, incorporated the results of a ten-year research and standardization project. The scale, as revised in 1937, retained the distinguishing characteristics of Binet-type tests, utilizing the same assumptions, methods, and principles.

It made use of age standards of performance and the assumption that general intelligence is a trait which develops with age.

The 1969 revision is the L-M Form, an incorporation of the L and M Forms of the 1937 scale. This made it possible to include an alternate subtest at each level, whereas before alternatives were available at the preschool levels only. Thus, the Stanford-Revision is an age scale making use of age standards of performance. It undertakes to measure intelligence regarded as general mental adaptability.

The most essential requirement for determining a valid mental test score on the Stanford-Binet Scale is an examiner who knows his instrument and who is sensitive to the needs of the subject whom he is testing. The special procedures for giving this test have been carefully worked out for each test situation. The directions are simple and tend to facilitate spontaneous and informal presentation of the tasks.

The Southern University E & R Center used two Supplements to the Binet Test: Inventory of Factors Affecting Test Performance and Birch Procedures.

Inventory of Factors Affecting Test Performance

This inventory focuses on the need to identify factors which adversely affect test performance. It was completed by the tester immediately following each administration of the Binet.

In this inventory, a set of factors which may adversely affect the child's test performance are listed with several styles in which the factor may express itself. A rating scale is provided to indicate the degree of adverse effect noted by the tester,

Factor							Style
X	1	2	3	4	5	6	A
	No	Mildly		Moderately		Seriously	B
	Adverse	Detrimental		Detrimental		Detrimental	C

If performance is adversely affected, the degree to which the factor is detrimental to test performance is noted and the number corresponding to it is circled accordingly. The appropriate letter is circled to indicate the style. When there is no adverse effect noted, the ONE is circled.

The factors listed are:

Response to test

1. Gives the test the attention it requires
2. Realistic sense of competence
3. Adequate response time
4. Is matter of fact about tasks or enjoys them
5. Adequately persistent in the face of difficulty
6. Reacts to failure realistically

Response to examiner

7. Feels socially at ease
8. Responds to normal amount of encouragement

Generalized responses

9. Normal activity level
10. Normal verbal level
11. English usage adequate (for bilingual or multilingual children)

Test conditions

12. Adequate
13. English usage adequate (for unilingual children)

Attached to the Inventory of Factors Affecting Test Performance is a report sheet on testing conditions. This sheet surveys the conditions of the testing site, i.e., ventilation, temperature, noise, working space, lighting, working surface, and cleanliness.

Birch Procedure

A tentative modification of the Birch procedure for recording response styles to the demands of the Stanford-Binet was devised for use in the 1968-69 national Head Start evaluation. The Birch system is an attempt to objectively describe behavior in response to cognitive demands independent of achievement. Attempts have been made to use one examiner to simultaneously administer the Binet and to code the child's behavior in terms of the Birch system.

Gumpgookies

This instrument was designed to measure the motivation of young children to achieve in school. The essential information upon which the procedures for Gumpgookies were designed was provided by preliminary studies investigating behavior, behavior testing, role-playing performance, sorting, paired comparisons and story techniques and formats.

In the first experimental form, Gumpgookies was presented in story format and consisted of 200 items that focused on the behavior of imaginary figures called Gumpgookies. In each item two Gumpgookies respond differently to a semi-structured situation providing dichotomous options. Item analysis was employed in the selection of the most promising 120 items. Another 20 items were eliminated by factor analytic techniques - thus, a 100-item instrument resulted.

Though it appears that this instrument is effective in measuring the presence of the constituents of achievement motivation within the limited response repertoire of preschool children, the revised Gumpgookies is now in the process of being cross-validated. A sample of 330 four-year-olds is being used in this cross validation. This instrument does not require complex verbal skills, but only some indication of selection, capable of being performed by virtually all four-year-olds. Moreover, because only dichotomous options are used, children can easily make their selections and are not bogged down with complex and abstract evaluation discriminations.

The Gumpgookies figure, as well as the child's participation in finding his own Gumpgookie, seems to have enough fascination to hold interest throughout the items and give the entire test unity. The Gumpgookie seems to alleviate the anxiety of children threatened by either the testing situation, or too close identification with another figure more nearly like themselves.

This instrument does not assume universal experience. It does present a standard series of situations to which children can respond, thus attempting to scale the amount of motivation to achieve that they have learned. Through simulation of behavior in the items, this instrument taps a wide variety of situations and prevents domination of the score by situation-specific reactions.

Gumpgookies is presented in a story format and centers around the imaginary little figures called Gumpgookies. Each child is told that he has his own Gumpgookie and that although it looks like all the other Gumpgookies, it follows the child around and behaves exactly as he behaves--it likes what the child likes and it does what the child does.

In administering the Gumpgookies, the examiner reads the text and points to each Gumpgookie as it is described, beginning with the Gumpgookie on the left side of the picture. After the child responds, the examiner asks him which object he likes best. The child may respond by speaking or pointing.

A Checklist of Administrative Variables

This instrument was designed to record:

1. Administrative and community variables which directly affect the range of teacher responsibility.
2. The degree of entropy in the Head Start system. (James G. Miller, defined entropy as "The disorder, disorganization, lack of patterning, or randomness of organization of a system.")¹
3. Interactions between center director, supervisor, head teacher, teacher, social worker, parents or parent's council and medical staff.
4. Attention is given to improving the child's mental processes, emotional and social development, physical and mental health.
5. The Checklist was designed to record events that might be expected to occur from the start to the finish of the Head Start year.

1. James G. Miller, "Living Systems: Basic Concepts, Behavioral Sciences (July, 1965), p. 195.

A person who is familiar with the checklist should administer the instrument. She reads the instructions with the teacher.

The interviewer will remain present to answer any questions and to be of general assistance to the teacher while she completes the questionnaire. The teacher, center, class and her own ID number will be recorded on the questionnaire by the interviewer after the interview is completed. The teacher selects those number(s) from the list of personnel that represent, in her opinion, the individual who participated in the specific activity indicated in the question. A list of personnel is found on the last page of the instrument.

Post Program Interview with Teacher

The purpose of the post-program interview is to provide an index of the extent to which the interventions of some E & R centers may have occurred spontaneously in sample classes by similarity to the intervention classes of each study. One class being studied, for example, could be an "intervention" class in one analysis, a "high similarity" class in another analysis, and a "low similarity" class in still a third analysis.

Parent Interview Form

The basic purpose of the Parent Interview is to elicit from the parents of Head Start children involved in the 1968-69 national evaluation certain in-depth information which will be utilized in describing, evaluating, and suggesting possible changes in the Head Start program.

This interview is to be administered following child testing in order to facilitate conversation with the parents. The usefulness of

the information obtained for describing and suggesting possible changes in the Head Start program, the value of the parent's help in effecting such changes, and the gratitude for the person's willingness to give her time is to be stressed in setting up an interview.

The responses on this instrument involve statements of agreement or disagreement, or will be a measure of degree. There are no right or wrong answers, but rather, an attempt to gain an understanding of how the parents feel about the various questions.

Post Observation Teacher Rating Scales (P.O.T.)

This rating scale is a compilation of items received from Bank Street College of Education, Michigan State University, Syracuse University and the University of Texas.

In this scale, the writers tried to provide comprehensive behavior categories which reflect the atmosphere of the classroom as determined by the teacher.

The P.O.T. was designed to be used after a 2 1/2 hour observation period and also after every 2 1/2 hour Observation of Substantive Curricular Input (O.S.C.I.) has been completed in a classroom a total of five times. Ratings are to be made by the observer immediately after leaving the classroom. Judgments are made on the basis of what took place during that particular period. There are 33 items in the P.O.T.

Class Facilities and Resources Inventory

This inventory assesses the facilities and resources of each individual Head Start Center. It taps into the kind of space used by the

class, (number of rooms, bathrooms, kitchen, nurses facilities), outdoor play area, nature of principal surface used for play, sq. footage of outdoor space, availability of books, condition of equipment and amount of equipment. It also asks questions about the average distance the children travel to class, the quarters occupied by the class, size of the town in which the class is located and the institution which operates the program.

There is also a section which gathers information on the description of the classroom, its general appearance, ventilation and lighting. A checklist assesses the number and nature of books, toys and other classroom materials.

Illinois Test of Psycholinguistic Abilities (ITPA)

The psycholinguistic model on which the ITPA is based attempts to relate those functions whereby the intentions of one individual are transmitted (verbally or nonverbally) to another individual, and reciprocally, functions whereby the environment or the intentions of another individual are received and interpreted. It attempts to inter-relate the processes which take place, for example, when one person receives a message, interprets it, or becomes the source of a new signal to be transmitted. It deals with the psychological functions of the individual which operate in communication activities.

Following is a brief description of the 12 tests of the ITPA.

Auditory Reception. This is a test to assess the ability of a child to derive meaning from verbally presented material.

Visual Reception. This test is comparable to the Auditory Reception Test but utilizes a different sense modality. It is a measure of the child's ability to gain meaning from visual symbols.

Auditory-Vocal Association. This test taps the child's ability to relate concepts presented orally.

Visual-Motor Association. The organizing process in this channel is tapped by a picture association test with which to assess the child's ability to relate concepts presented visually.

Verbal Expression. The purpose of this test is to assess the ability of the child to express his own concepts vocally.

Manual Expression. This test taps the child's ability to express ideas manually. This ability is assessed by a gestural manipulation test.

Grammatical Closure. This test assesses the child's ability to make use of the redundancies of oral language in acquiring automatic habits for handling syntax and grammatical inflections.

Supplementary Test 1. Auditory Closure. This is basically a test of the organizing process at the automatic level. It assesses the child's ability to fill in missing parts which were deleted in auditory presentation and to produce a complete word.

Auditory Sequential Memory. This test assesses the child's ability to produce from memory sequences of digits increasing in length from two to eight digits.

Visual Sequential Memory. This test assesses the child's ability to reproduce sequences of nonmeaningful figures from memory.

Observer's Report on the Class

This report consists of a rating scale used by the observer to record the extent to which specific developmental goals were emphasized in the curriculum. The scale ranges from very strong emphasis (1) to no emphasis (5).

The developmental goals in question were: (1) Sensory-motor development; (2) Language development; (3) Group and skills development; (4) Concept development; (5) Academic skill development; (6) Self-esteem development; (7) Motivational development.

Space is also provided on this instrument for the observer to list any additional goals that were stressed in the class observed and also to briefly describe the class in terms of its basic academic structure and the discipline within the classroom.

Observation of Substantive Curricular Input (OSCI)

The OSCI is an instrument used to record the activity of an entire class and the teacher. Recording is done in codes, and there are several different categories.

Context Code. In class observation units one context code must be entered for each grouping of children observed in that unit. After the initial recording, subsequent changes in activity within the same observation unit are not recorded. If the teacher is not involved with any specific group, no context code will appear in the teacher's observation units. The context code gives a general description of activities, i.e., resting, eating, discussing.

Content Code. Indicates the nature of the curricular input the child is receiving from the activity or teacher. Up to two content codes may be used to describe activity in which the children are involved. A third content code may be used to indicate social interaction.

Locus of Control. Indicates who is delineating the rules and content of the activity, i.e., child, head teacher, assistant teacher, any other adult.

When more than one teacher is equally involved in the same activity with same children, precedence is given to the head teacher over assistant, assistant over aide, aide over volunteer in determining locus of control.

Pre-School Inventory

This inventory gathers general knowledge about the child, his concept of his own body form and concepts about events, persons, or places that one finds in everyday life.

When the child refuses to talk or gives a vague or ambiguous answer, the examiner may give instructions other than those specified in the manual. For example, the examiner might say such things as "Tell Me What You Mean By That" or "Tell Me More About It."

Three types of responses may be recorded in the answer folder:

R: Right answer

W: Wrong answer

DK: For an actual verbal,

"I don't know", where

child remains silent; or
where the child responds
or behaves in ways unrelated
to the item.



Weschler's Pre-School and Primary Scale of Intelligence (WPPSI)

Only the subtest Animal House of the WPPSI was included in the battery of tests given to Head Start children.

The Animal House consists of a board on which pictures of four different animals are drawn and a box of colored pegs. There is a small hole under each picture. A different color peg represents the house of each animal. The tester demonstrates the procedures to the child, giving each animal its correct house. Then the child is asked to do the same. The child should fill in as many holes as possible with the correct colored peg in the order that the animal pictures appear.

CHAPTER III

INTERVENTION DESIGN

The 1968-69 intervention plan for the Southern University Evaluation and Research Center involved 10 different classes in 3 centers in Baton Rouge, Louisiana. Within six of the 10 classes all of the children were exposed to the University of Hawaii Preschool Language Curriculum (UHPLC). There was also a parallel parent program. Three centers, each involving 2 classes, were included in this phase of the intervention: Harding Head Start, Ryan Head Start and CAWSC. In the other 4 classes, 2 at Harding Head Start and 2 at Ryan Head Start, all of the children received a cultural enrichment program. There also was a paralleling parent program involving all cultural enrichment classes and two of the six language classes. The language parent program (LP₁) concentrated on helping parents become teachers of their children, specifically in the area of language skills. The second parent program (LP₂) emphasized general principles of child development and child rearing practices. Complete descriptions of the language intervention program and the parent programs now follow.

Parental Involvement Program

The initial purpose of the parental involvement research design was to incorporate parents of Head Start children as teachers of their children. The design being two-fold, it included two distinct parent education programs. These programs were designated as parent program #1 and parent program #2.

Parent program #1 had as its primary purpose the involvement of parents in an ongoing program of teaching their own children language concepts that directly supported the content presented to children in the classroom. The parents learned the language curriculum, as well as techniques to use with their children that supplemented the language teacher's presentation in the classroom.

The first five meetings served to orient the parents as to the functions and practices of Head Start and general pre-school education. The essential objectives were:

- (1) To provide a warm, non-threatening learning situation.
- (2) To motivate parents to participate in the classroom and in the parent program.
- (3) To arouse interest in the learning process.
- (4) To present the role of the supervising adult in one typical preschool activity.

Following an outline constructed by the staff of the Evaluation and Research Centers at Southern University and the University of Hawaii, the parent educators were able to introduce and project ideas and methods which directly correlated with the initial research design.

In the first meeting of the orientation period the parents manipulated clay while role-playing. The rationale behind the use of clay was that it provided sensory experience and it offered an intermediate step to symbolic representation. The parents were also told how they could use clay-manipulation effectively with their children, being careful not

to become instructors but rather facilitators. The idea of facilitating rather than instructing was stressed in the third, fourth, and fifth preliminary meetings. The parent educators taught the effectiveness of making flour and salt dough and collage materials. They also stressed role-playing in which the parents played the role of the child in the language corner and also exchanged roles in playing language-strengthening games.

At the end of meeting #5 it was hoped that the parents realized the following:

- (1) The progression of the language program from simple to complex sentence patterns.
- (2) The importance of language for thinking.
- (3) The need for their assistance in strengthening the learning of language at home.
- (4) The role that parents can play by using a language game such as "Animal Lotto" to increase their children's language potential.

At the end of the five-week orientation period, the parents were given a scholarship of \$15.00, \$3.00 for each meeting. It was hoped that the scholarship would serve as a means of motivating them to attend these meetings and those scheduled for two-week intervals until the termination of this portion of the program. After the orientation meetings it was found that most parents were not motivated significantly by the scholarship award.

Following the fifth meeting the objectives of parent program #1 emerged as follows:

- (1) To determine ways in which parents might teach their children at home.
- (2) To analyze message, motivation and feedback in a teaching situation.
- (3) To establish an atmosphere of learning together as parents and staff members.
- (4) To give parents the experience of teaching each other.

The meaning of these objectives was intensified by the use of a 16 mm film prepared by the University of Hawaii entitled "Helping Head Start #5: Parent Teaching, by Jean Fargo." In following meetings the content of the discussions and supplementary activities were dependent upon the task and objectives of the individual language teachers.

An organized effort was made to have parents work with their children for at least 10 minutes per day at home in a prescribed language activity. They were selected to reinforce the classroom teacher's language lesson content and those supplementary activities which were directly related to language strengthening.

Parents were asked to keep a very simple record of their home assignments and independent language activities, covering the following categories: reading a story, looking at pictures, books or magazines, conversing with the child, playing a language game (suggestions for which were offered in parent meetings by the parent educators), tutoring the

child. (The latter approach was found to be not very effective since parents were becoming frustrated instructors rather than facilitators), and sharing in activity that required verbal exchange. How each parent actually worked with her child was indicated by gold stars on a master chart shown at each parent session. Therefore, the activity involving looking at a picture book might have 15 to 20 stars, one for each child, posted in the appropriate section for each week. Thus, each parent was able to see how her work compared with the work of other parents in the program. A similar type of reinforcement was used daily by the language teacher as a means of rewarding each child for good language work in the classroom.

The sequencing of parent program #2 followed Jerome S. Bruner's¹ course of cognitive growth, which moves from the inactive or act through the iconic or image to the symbolic or word. Parent program #2 was designed to provide background information on principles of child development and child-rearing practices. There were three basic procedures used with the parents of Head Start children involved in this phase of the evaluation and research design:

- (1) Art activities were used to establish rapport and involvement.

1. Jerome S. Bruner, "The Course of Cognitive Growth", American Psychologist, 19, pp. 1-15, 1962.

- (2) Audio-visual materials and group discussions were used to enhance interpersonal relationships and individual development.
- (3) Sharing through exchange of child-rearing practices, and ways of coping with specific related problems were stressed.

The first three meetings followed the same general outline of parent program #1, with special emphasis on teaching the parents involved special skills which would increase their effectiveness as classroom volunteer as well as interest them in the parent program. The \$3.00 scholarship was also awarded after the first five meetings, as a means of motivating the parents to attend the following two-week interval sessions each month.

The content of meetings four and five was suggestive of the essential differences in the two programs. In these meetings the parent educators began providing methods of working with and aiding parents in understanding early childhood development and child-rearing practices. A movie, "When Should Grown-ups Stop Fights" was shown in order to help the parents realize that as children grow they will argue and fight and that they need to learn to handle their own interpersonal relationships. Discussions followed which included helping children to get along with their peers; helping adults to understand the developmental levels of children and some of the problems children encounter in their social relationships with other children. The most common social problems discussed were:

- (1) Sharing
- (2) Competitiveness
- (3) Differences in skill competencies
- (4) Sexual roles
- (5) Variations in self concepts
- (6) Dominating as opposed to submissive children

The parent educators helped the adults realize what they needed to do as parents:

- (1) To protect their children from bodily harm
- (2) To interpret feelings
- (3) To offer alternative responses
- (4) To interpret classroom rules and explain their meanings

Subsequent meetings scheduled semi-monthly were presented in three stages:

- A. Inactive presentation during the months of October, November and December. Art media were used in this period in order to facilitate communication and provide parents with the means of sharing specific activities with their children. The parent groups moved at different speeds and with somewhat different emphases in accordance with the needs of the group as a whole and its individual members.

The specific goals of this period were:

1. To help the parents recognize the value to an individual of inherent order, particularly as it relates to child development.

2. To help parents recognize the need to accept variation and uniqueness in human development and potential.
 3. To help parents recognize that people share common feelings, and that art experiences offer an opportunity for discovering, exploring and sharing some of their feelings.
- B. Iconic presentation during the months of January and February. Included here was exposure to visual art, music, and audio-visual materials which were shared and enjoyed as stimulants for discussion. The parent educators tried to show parents that sharing of such experiences with their children helps to develop a closer intra-family relationship.
 - C. Symbolic presentation during the months of March, April and May. This stage provided direct confrontation with problems facing parents. Role-playing and other practical techniques were used in trying to resolve solutions to these problems in order to deviate from theoretical solutions. The parents tried to steer clear of the authoritarian and physical handling of disciplinary problems, but rather sought to broaden the perspective in which a problem might be solved.

Parent program #2 used three main techniques in stimulating parental participation:

- (1) Pillow Education² as a mechanism for extending perspective and exploring compromise solutions to conflict situations*
- (2) Case Studies which encouraged mothers to cite specific examples of common problems.
- (3) Role playing of specific problems presented in the case studies to point out interactional development.

Both parental involvement programs hoped to incorporate into the general framework of home life an awareness on the part of parents the need for better and more effective language usage by themselves and their children, and a keen awareness of problems of child development and alternative solutions to those problems.

Language Program

The language curriculum was taught everyday to small groups ranging in size from 4-5 children per group, by an additional teacher who was highly trained in the specialized techniques of curriculum presentation.

2. Paul Reps, Square Sun, Square Moon, Charles E. Tuttle Co., Rutland, Vt., USA and Tokyo, Japan, 1967, p. 17.

*Pillow Education - is a method that has been used in rural Japan, and since it uses a pillow it has been called Pillow Education. "A pillow has four sides and a middle. A problem has four approaches and a middle.... The child reasons not in numbers but in a rational sequence of four steps: wrong, 1; right, 2; both wrong and right, 3; and neither wrong nor right, 4... In conclusion each child summarizes his presentation by cupping his hands in the middle of the pillow (), affirming an unnamed center from which 1, 2, 3, 4 emerge.

The question was raised as to whether regular contact with an attentive adult in a small group situation was a critical factor in effecting change in the children's performance. A probable solution to the question was the idea of placing the children in a different class situation with a person trained in culturally reinforcing nursery school skills. Instead of language lessons, the time was devoted to a wide variety of general school activities such as listening to records and children's stories, arts and craft activities (such as making collages and finger painting, free play and other school skills). Parents from these classes received parent program #2. Since parent program #1 is specific to the UHPLC, it is inappropriate for use with other curricula.

The schematic design of the intervention plan is presented in Table I.

The specific purposes of this study were to investigate (1) whether a parent program centered around language development is more or less effective than a program with a broader focus when all children are receiving daily language lessons, and (2) whether the content and style of presentation of material to children in small groups (i.e., structured language curriculum versus varied nursery school activities) differentially affects their performance on a variety of measures, when all parents are given the same parent program (LP₂). Additionally, findings from the 1968-69 study were compared with data collected thus far in language classes having no organized parent program or minimal parental involvement even though a program was available.

INTERVENTION DESIGN

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TABLE I

	CAWSC HEAD START (Language) Total N 17 Total S 16 Lost 2 Parent Program #2 LP ₂	CAWSC HEAD START (Language) Total N 15 Total S 15 Lost 2 Parent Program #1 LP ₁	
Harding Head Start (Language) Total N 16 Total S 16 Total lost 1 Parent Program #2 LP ₂	Harding Head Start (Enrichment) Total N 15 Total S 15 Total lost 5 Parent Program #2 EP ₂	Harding Head Start (Language) Total N 17 Total S 17 Total lost 2 Parent Program #1 LP ₁	Harding Head Start (Enrichment) Total N 18 Total S 18 Total lost 7 Parent Program #2 EP ₂
Ryan Head Start (Language) Total N 12 Total S 11 Non-Sample 1 Total lost 0 Parent Program #2 LP ₂	Ryan Head Start (Enrichment) Total N 11 Total S 11 Non-Sample 0 Total lost 2 Parent Program #2 EP ₂	Ryan Head Start (Enrichment) Total N 12 Total S 11 Non-Sample 1 Total lost 2 Parent Program #2 EP ₂	Ryan Head Start (Language) Total N 12 Total S 12 Non-Sample 0 Total lost 4 Parent Program #1 LP ₁

During 1966-67, the applicability of the Bereiter-Engelmann Beginning Language Program was explored. Extensive revisions based on this feasibility study resulted in the University of Hawaii Preschool Language Curriculum. Along with Southern University's E & R Center, this was developed into a full-year program which provided young children with the most useful of standard English grammatical constructions, giving them the underlying logic of the language, and enabling them to use it as a vehicle for conceptualization. It is incorporated in a highly detailed, carefully sequenced instructional manual, which presents the syntactical forms to be taught, techniques for presentation, informal supporting activities, and a schedule of reinforcement procedures in a series of structured lessons. The curriculum includes a great deal of pattern practice of sentence frames that occur with high frequency in standard American English.

Since presenting the curriculum to small groups of children on a daily basis is a rather demanding task, a special language teacher for each Head Start Center involved is provided through the Southern University E & R Center. This teacher will teach the language lessons to separate groups of from 4 to 5 children from the two classes in each of the three centers. This enabled the regular classroom teachers each to supervise other activities related to the language lessons for the remainder of their classes. This procedure also standardized the presentation of the structured part of the program for both classes in each center and made the comparison of the two programs more valid.

It is important for the classroom teachers and aides, the staff members working with parents, and the language teachers to understand the rationale underlying the language curriculum. A training session designed to effect a team approach to language learning was conducted by the Southern University E & R staff during a joint meeting at one of the Head Start Centers. An effort was made to familiarize all concerned with the UHPLC: the content, the methods used in teaching it, and the rationale behind it.

Attention was given especially to the ways in which the language lesson supported the classroom activities and the direct reinforcement of the parents in parent program #1.

The training program emphasized the need for constant communication between the language teacher and the other staff involved, both in regard to what is being taught to the group and to each child's level of development. This made possible the maximum use of personnel and materials.

In an attempt to shed light on the question of whether regular contact with an attentive adult in a small group situation may be the critical factor in effecting change in the children's performance, children in two additional classes in two of the centers have also met daily in small groups with a skilled nursery school teacher. Instead of language lessons, the time has been devoted to a wide variety of general school activities including art and crafts, music, science, dramatic play, and games. Each week lessons have been planned to discover a broad spectrum of pre-school activities. A typical week would include one 20-minute art lesson, one music lesson, one science lesson, one dramatic or role-playing lesson, and one game lesson.

On the whole, the regular classroom teachers have welcomed the special teachers into their classrooms as a means of enhancing their ongoing program. Most of the classroom teachers, however, have had some difficulty in grouping their children and in rotating them from one activity to another during the hour that the special teacher is in their classroom. Children in some classes, therefore, are not working in small groups as often as had been planned.

Reinforcers have been used consistently by the enrichment teachers and the language teachers. A reward board which contained samples of the objects for which the children could work (e.g. pencils, tablets, crayons, and small toys) was displayed in the study or activity corner. The board also contained a record sheet for each child for marking his progress in either the language or enrichment curriculum. When a child earned a sufficient number of marks, he received the object he chose from the reward board.

CHAPTER IV

FEASIBILITY STUDY
LITTLE ROCK, ARKANSAS

The Southern University Evaluation and Research Center conducted a feasibility study involving parent groups from two day-care centers, Booker Homes and Shiloh, in Little Rock, Arkansas. The principal aim of this study was to determine the effect of a monetary incentive on participation of indigent parents in discussion groups.

In recent years, the term sensitivity training has been used to designate an approach for facilitating change in attitudes and behaviors of those who participate in it. Applied insights from the behavioral sciences have been shared by means of sensitivity training with representatives from business, industry, government, education, and community organizations. Although use of this technique with the parents of underprivileged children has been virtually non-existent, it appears reasonable to speculate that the same principles of behavioral science which work with business executives and other individuals of similar background and status also will work in the case of these parents.

Studies of the individual and the influences exerted upon him by the group have indicated the following:

1. That the individual tends to establish for himself a frame-of-reference within which he makes his judgments;
2. That individuals in groups are influenced, sometimes unknowingly, by standards of others in the group, and their judgments tend to coincide with the emergence of new group norms;

3. That norms developed in group situations tend to persist in controlling the judgments of the individual even when he is alone.

These statements are typical of those that have helped form the theoretical bases of sensitivity training. They would seem to suggest that even in a situation which apparently is relatively devoid of motivation for conformity or for any enduring relationship, the individual is unable to escape the impact of the behavior of others.

The findings noted above were used as guidelines for formulating the following aims of the study as they relate directly to helping parents:

1. To help parents become more sensitive to the requirements of their children and other significant people in their homes;
2. To help them become more aware of their own limitations and personality needs;
3. To assist them in learning more about themselves and their impact on others.

The parents participating in the program were invited to attend a series of 16 discussion group sessions. All sessions were conducted by the same group leaders. Intensive participation was made possible, because the center classes averaged approximately 15 children; consequently the core of the discussion experience took place in small group meetings.

During the first five sessions, the approach was a structured one. The discussion leaders took active parts in presentation of theory, selection of films and encouragement of free and open communication as a basis for productive learning. Participants were able to decide what

they wanted to talk about, the kinds of problems they wanted to discuss, and what means to employ in reaching their goals. The extent of structure during the early weeks as compared with later weeks was a matter of degree, not of kind, with discussions becoming ever less directed. Thus, the emergence of leaders from the ranks of participating parents was encouraged.

The parents received incentive payments of \$3.00 per meeting for each of the 16 meetings attended. The 78 percent overall participation as defined by attendance at sessions would seem to suggest that the monetary reward had a positive effect upon participation. It must be noted, however, that the reactions gathered from the Parent Checklist Forms showed that the parents derived great intrinsic value from the weekly sessions.

The parents engaged in a variety of activities and discussions. Some of these are listed below:

Group I - Booker Homes Day-Care Center

1. A play - "You Never Told Me", sponsored by the Plays for Living Group of the Family Planning Service
2. A discussion with representatives from the Economic Opportunity Agency
3. A Christmas party with community leaders
4. A beauty contest - "Miss Granite Mountain Circle"
5. A discussion, "What Effect Meeting had on Parents and Their Children"
6. A discussion, "Problems of the Housing Project"
7. A discussion, "How We See Ourselves and How Do Others See Us"

8. A discussion, "At What Age Do Children Learn to Behave"?

9. A discussion, "Prenatal Care"

Group II - Shiloh Day Care Center

1. A discussion, "Problems of unwed mothers in high school"

2. A discussion of day care center graduation

3. A discussion, "Parent's Club and Improvement of It"

*4. A discussion, "Should Children Be Punished, If So How?"

5. A discussion, "Attitudes of Employers"

6. A Film - "Palmer Street"

7. A discussion, "How Do I Act At Home?"

*8. A discussion, "How Do Children Learn to Behave"

The last meetings were spent discussing what benefits were reaped as a result of the group's discussion and activities. The general consensus from both groups was that:

1. They understand themselves better.
2. They have tried to be more patient with their children.
3. They have begun communicating more with their neighbors.
4. They have become aware of many community resources.
5. They are now able to talk with their children about sex.
6. They are more tolerant with their spouse.
7. They have found other means of punishing their children than whipping.

*These topics were taped by the group leaders.

8. They have developed a greater interest in their day-care parent groups and have some real plans for continuing their group meetings.

The Gumpgookie Test--a test of motivation to achieve--was administered to the Head Start children of parents involved in the study (See page 20). The Gumpgookie Test was given to parents of the children during one of the sessions in each group. The parents were asked to imagine how their children would answer each question on the test. This was an attempt to measure empathy and awareness of their children's feelings. Results obtained from the children, as compared with a control group of their peers, drawn from the same classes within the centers and matched on sex, age and income, showed no significant difference in test performance. However, the mean scores were higher for the children of participating parents, ($t = .222$ and 1.84 , respectively). No significant difference was found in class attendance between children of participating parents and a control group. Children of participating parents had fewer absences. The mean absences for the sample groups was 7.37 days as compared with 9.14 days for children of the control groups.

It must be noted that it was unlikely that immediate measurable behavioral change would be obtained from parent participants or their children. Although positive changes are expected, such changes are likely to take place over a time span much wider than that involved in this study.

PARENT GROUP DISCUSSION
SHILOH DAY CARE CENTER

Summary of the First Four Meetings

The first meeting was a get acquainted meeting. The logistics of the program were explained to the ladies and they decided which day they would like to meet. The preference of the group was Friday evening for two hours from six until eight. There were nine persons at the first meeting. They also decided that they wanted all checks to be sent to Mrs. Bew.

The second meeting was held February 14, 1969. It was then decided to place this on tape. The topic discussed was "How Do I See Myself?" and "How Do Others See Me?" These are some of the things that were said:

One of the mothers felt that she had a bad sounding voice and children thought she was mean, but she got along well with people.

Another woman said that she was very nice and most people like her.

One lady said that she's not very pleasant and she tries to get along, but if she didn't she didn't worry about it either.

One lady said that she was very broadminded and gets along with most people. She believes in what she believes in and children seem to like her very well.

One lady said that most people think she's very nice and she doesn't like to hurt other people's feelings or have her feelings hurt.

Another lady said that she gets along with everybody; she's quiet and doesn't have very much to say. This lady got to the place where she talked quite a lot in the meetings.

This group seemed to be very talkative and to have a lot in common. They seemed to know each other pretty well and seemed to be pretty interested in the group. They talked a great deal about their children and exchanged ideas.

On February 21, 1969, eight persons were present. A film entitled "Palmer Street" was shown. The film was discussed and the group stated what they would do if the situation would come before them. This film depicted a home situation where people lived off an income of about \$2,500 per year. It showed the closeness of the family and some of the problems of the working mother. The film ended with a crisis in which the father was hurt. It was left open for discussion as to what parents should do if this would happen in their home.

On February 28, 1969, the topic discussed was "How Do I Act At Home." The group was composed of a third married women. The rest had never been married, but they did have children. They were all working parents.

They were willing to talk freely about themselves and they were generally frank.

The Fifth Meeting

Mrs. Bew: When do children learn to behave?

Response: I think that children start behaving when they're about two to three weeks old.

Response: I think from birth. The way the mother acted when she was carrying the child determines his behavior.

Response: I disagree with the statement that children act as their mother did when she was carrying them. This begins when the child gets a little older and can notice things and

form opinions for himself. When the child sees how his parents behave, he eventually begins to behave in a similar manner.

Response: When the child begins to crawl and get into a lot of things. When the child is old enough to realize for himself what is right and what is wrong.

Mrs. Bew: How do you feel about children fighting?

Response: I tell my child that he shouldn't fight when his friends come to play with him. I talk with the other child's parents when their child gets into a fight. Most of the fighting that is done is between the children at home and this is easily solved.

Response: I tell them that fighting isn't nice and I don't want them fighting. I'll ask him, "Did he kill you?" and he'll say no and I'll say 'Go back out there and hit him back.' This settles the argument and they start playing again. If I would whip them, they would probably become angry with me, and then they would be playing while I'm sitting there looking stupid. Instead of solving the problem I would be making enemies.

Mrs. Bew: Where do children learn to fight in the first place?

Response: At home.

Mrs. Bew: Do you think the child fights automatically?

Response: That's my problem. Mine won't fight.

Response: Mrs. Bew, do you think your surroundings depend on how a child acts?

Mrs. Bew: I feel that a child has to learn to fight. If he never sees anybody fight, I don't think the child would ever know how to fight or know what fighting is.

Response: They see other children fighting and some fight with other children. There is fighting on the television. It is not always in the home. My little girl will come home from school crying because someone jumped on her. I tell her that she should hit back because as long as she doesn't fight back she will have a fight everyday. Some children would use her as a pecking stone.

Mrs. Bew: Do you think at this point that you have any responsibility to find out why this fighting is going on?

Response: If it's a continuing thing, you should. I don't think so the first time because this could be an accident. But if they keep on, this can develop into a fight. After the fight, then I'm going to find out the reason.

Mrs. Bew: The first time there is a reason.

Response: If I bump into Mrs. Thurman, is there a reason? I could have just lost my balance.

Group

Response: That's a reason.

Response: But why should she go and tell her mother that I bumped into her.

Mrs. Bew: What would you say to let Mrs. Thurman know that you really didn't mean any harm?

Response: I'm sorry. Lots of people don't like to say I'm sorry; they just keep on pushing.

Mrs. Bew: Some children don't fight with their fists. They fight verbally. Some children motivate and stimulate fights. We never know what our children do when we're not around. Encountering this problem, do you try to find out why they're fighting.

Response: I try to talk to my child and the other child.

Response: I don't believe in fighting. They learn their temperaments while the mother is carrying them. My big boy won't fight. Sometimes I ask him why he doesn't fight back and he says he's not going to fight because it's rude. I don't believe in fighting either and I've never taught them to fight.

Mrs. Bew: What is the reason for fighting?

Response: Lots of times the larger kids start the smaller ones to fighting. Sometimes the larger ones tell the smaller ones to hit someone and take back what belongs to them. They hit back and just grow up like that.

Mrs. Bew: When I wasn't working, I would supervise my children at play. When they started to fuss, I knew they were getting tired of each other so I would tell everybody to go home

and make them come into the house. I don't think children should play constantly all day because like adults they can just get tired of each other. I am the biggest example my children have because they see how I handle situations. The home environment plays an important part in influencing a child's behavior. Parents have to be together in the type of discipline they are going to use. It takes a whole family to solve problems. Larger children play a part in teaching smaller children to fight. When children fight, sometimes they have other problems. Other things are disturbing them. Sometimes it is well to let a child see a child psychologist to find out what his problems are. When the problem first begins, you should get right to the bottom of it; look into it deeply.

In summing up, where are some of the places where children learn to behave.

Response: At home, church, school, etc.

Mrs. Bew: Every place we go in the surrounding environment. Get to know your neighbors because your children come in contact with them, too.

Some children grow up without love; they grow up fighting their way through life; they don't have a mother at home at night to put them to bed or to give them a good breakfast in the morning.

We have to have patience in teaching our children. What is a baby's first desire?

Response: To please his parents. Sometime ago when my husband and I were playing, my little boy helped his daddy by hitting me, too.

Mrs. Bew: He was learning a behavior pattern. Did you let the child know you were playing?

Response: Yes. We don't argue around him.

Mrs. Bew: He saw you playing rough and that's why children pick up habits they don't understand. That's why we have to take time and listen to them and help them overcome their problems. Sometimes they learn things during the day that we would find out if we would listen to them. We can determine from listening to them whether they're aggravated or happy.

Response: One day when my little boy came home, I asked him what happened at school and he said he didn't get his snack. So I told him that I would buy him an apple and that satisfied him. One day my husband and I were playing in the kitchen and my little boy asked his daddy what he was doing to me. I told him we were just playing. He didn't want anybody to hurt his mother. He left, but he kept looking back and asking if we were still playing.

Mrs. Bew: Lots of times children are listening when you don't think they are. Sometimes they hear you say something and think somebody is bothering you. My children used to be very unhappy when I had to leave the house, but you have to teach your children how to act when you leave.

Response: My little boy would cry when I had to leave. So I told him that he couldn't go every place that I go and that he was going to have to stop crying and act like a big boy. So he said okay and stopped crying.

The Sixth Meeting

Chairman: Should children be punished and if so, how?

Response: Sometimes when I punish my children I take away something they like (TV program). I try talking to them first. If this doesn't seem to help, then I use a strap when everything else fails. That usually works.

Response: I think they should be punished. When they've done something I don't approve of I don't let them look at television. Lots of times one of them doesn't do his lesson, so I get him out of bed and make him do it. Sometimes I don't let them go out to play. One day I called my little boy inside and asked him why he was fighting and he said there wasn't any reason, so I told him to sit there until he thought he was ready to go back outside without fighting.

Response: I punish mine in different ways. Sometimes I won't let them talk on the telephone. I whip them and I won't let them go to different school activities and that hurts them. My 14-year-old made some bad grades so I wouldn't let him play basketball. He's not dumb but he's lazy. Sometimes I make them go to bed early. Sometimes I make them sit in the house all day and won't let them look out the window. I feel that most children should be punished.

I whip from the 14-year-old down. The last time I whipped the 21-year-old was when he was 18. One time the 14-year-old brought his card home and I whipped him good.

Response: Did you let him explain first?

Response: He couldn't explain. He had thrown away two of his books. I had talked to him before but this time I whipped him first and talked afterwards.

Mrs. Bew: Did you go to the school and talk to his teacher?

Response: I haven't been to the school but I talked to her by phone.

Mrs. Bew: Does he have good study habits?

Response: He doesn't like to study.

Mrs. Bew: Why?

Response: I don't know why. He likes to work with cars, put things together and make things.

Mrs. Bew: You could center his lesson around his interests.

Parent Group I

TABLE II
FEASIBILITY STUDY
BOOKER DAY CARE - LITTLE ROCK, ARKANSAS
GUMPGOOKIE TEST PERFORMANCE

<u>I Child No. (Sample)</u>	<u>X</u>	<u>x</u>	<u>x²</u>
1	55	-6.82	46.51
2	73	+11.18	124.99
3	82	+20.18	407.23
4	43	-18.82	354.19
5	55	-6.82	46.51
6	38	-23.82	567.39
7	40	-21.82	476.11
8	78	+16.18	261.79
9	63	+1.18	1.39
10	51	-11.82	139.71
11	71	+9.18	84.27
12	53	-8.82	77.79
13	79	+17.18	295.15
14	70	+8.18	66.91
15	48	-13.82	190.99
16	88	+26.18	685.39
17	64	+2.18	4.75
<u>N=17</u>	<u>1051</u>		<u>Σx² 3831.07</u>

N=17 $\bar{x}_1 = 61.82$

<u>II Child No. (Control)</u>	<u>X</u>	<u>x</u>	<u>x²</u>
1	64	+1.00	1.00
2	69	+6.00	36.00
3	68	+5.00	25.00
4	60	-3.00	9.00
5	55	-8.00	64.00
6	56	-7.00	49.00
7	59	-4.00	16.00
8	73	+10.00	100.00
<u>N=8</u>	<u>504</u>		<u>Σx² 300.00</u>

$\bar{x}_2 = 63.00$

t = .222 insignificant

Parent Group II

TABLE III

FEASIBILITY STUDY
SHILOH DAY CARE CENTER, LITTLE ROCK, ARKANSAS
GUMPGOOKIE TEST PERFORMANCE

<u>I Child No. (Sample)</u>	<u>X</u>	<u>x</u>	<u>x²</u>
1	40	-4.78	22.85
2	52	+7.22	52.13
3	46	+1.22	14.88
4	42	-2.78	7.73
5	51	+6.22	38.69
6	45	+.22	.05
7	41	-3.78	14.29
8	47	+2.22	4.93
9	39	-5.78	33.41
	<u>403</u>		Σx^2 <u>188.96</u>
	N=9		
	$\Sigma X=44.78$		

<u>II Child No. (Control)</u>	<u>X</u>	<u>x</u>	<u>x²</u>
1	52	+11.22	125.89
2	37	-3.78	14.29
3	37	-3.78	14.29
4	41	+.22	.05
5	27	-13.78	189.89
6	48	+7.22	52.13
7	50	+9.22	85.01
8	41	+.22	.05
9	34	-6.78	45.97
	<u>367</u>		Σ <u>527.57</u>
	N=9		
	$\Sigma X=40.78$		

t = + 1.84 insignificant

CHAPTER V

STATISTICAL ANALYSIS

Pre and post test differences were compared for significance on all instruments, with classes and programs held constant. Other than the ITPA Grammatic Closure and Manual Expression subtest differences, all comparisons were significant either at the .05 or .01 level. The tabular statement of these findings is in Appendix II, Table 2-24.

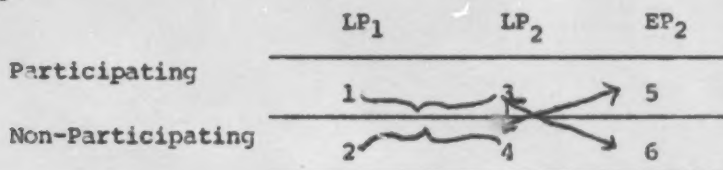
It must be noted that these results lose some cogency when the possibility that they are due primarily to maturational factors is taken into account. They are reported in an informational sense, rather than in the sense of any inferences about the effects of either programs or classes.

AUDITORY RECEPTION (ITPA)

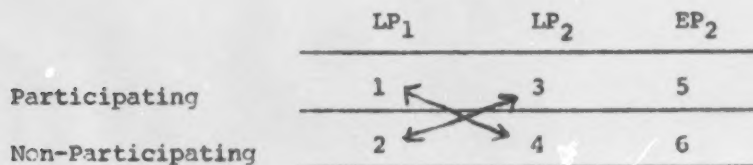
The Auditory Reception subtest of the Illinois Test of Psycholinguistic Abilities showed few significant differences when an analysis of variance was performed on the following variables:

1. Programs - language and enrichment.
2. LP_1 , LP_2 vs. EP_2 - language-parent program #1 (LP_1), plus language-parent program #2 (LP_2) compared with enrichment-parent program #2 (EP_2).
3. Class/Programs - because of the wide variation among the classes in each program, this variable was used as a source of error control.
4. Parent - included the participating and non-participating parents of parent program #1 and parent program #2.
5. Program x Parent - represent the type of program, language or enrichment, compared with the participation or non-participation of the parents.

6. 1, 3, 6 vs. 2, 4, 5 - involves an interaction between the differences obtained from the combined effects of the participating parents of LP_1 , LP_2 combined with the non-participating parents of EP_2 and the non-participating parents of LP_1 , LP_2 combined with the participating parents of EP_2 .



7. 1, 4 vs. 2, 3 - tested the interaction effect between the differences of the children of participating parents in LP_1 and non-participating of LP_2 with participating parents of LP_2 with non-participating of LP_1 .



8. Pre-Score - was held as a constant variable. It was the pre-score obtained on each instrument or item during pre-testing.
9. I. Q. Score - is the Stanford-Binet Intelligence Quotient derived from pre-testing. It was held constant.

The significant F's found were: (See Appendix II, Table 2-1)

1. That the use of programs made a difference in performance on Auditory Reception, ($F = 4.73$, d.f. = 6/70, $p < .01$).
2. That pre-score performance was highly significant for post-score results, ($F = 8.79$, d.f. = 1/70, $p < .01$).
3. That the Stanford-Binet I.Q. was a significant variable in performance on Auditory Reception, ($F = 5.51$, d.f. = 1/70, $p < .05$).

VISUAL RECEPTION (ITPA)

Another subtest of the Illinois Test of Psycholinguistic Abilities, visual reception, had a highly significant F derived from the influence of pre-score performance on the post scores ($F = 15.68$, d.f. = $1/70$, $p < .01$). (See Appendix II, Table 2-2).

AUDITORY ASSOCIATION (ITPA)

The only significant F obtained from an analysis of variance on this subtest of the ITPA was the pre-score performance, which was highly significant, ($F = 38.84$, d.f. = $1/70$, $p < .01$). (See Appendix II, Table 2-3).

AUDITORY SEQUENTIAL MEMORY (ITPA)

Although no significant F was found ($F = 2.25$, d.f. = $1/70$, $p > .05$), for an interaction between classes; (1, 3, 6 vs. 2, 4, 5), a significant F for the interaction 1, 4 vs 2, 3 showed that language oriented parental participation within classes had a more significant effect upon performance of this subtest than did non-participation ($F = 69.39$, d.f. = $1/70$, $p < .01$). (See Appendix II, Table 2-4).

Pre-score results had a highly significant effect upon post performance, ($F = 72.10$, d.f. = $1/70$, $p < .01$).

VISUAL ASSOCIATION (ITPA)

A highly significant interaction was obtained between the effect of participation and non-participation of parents who received language

an enrichment instruction and the performance of their children on the Visual Association subtest. (See Appendix II, Table 2-5). This result indicates that children whose parents participated and received language instruction performed better than children whose parents received enrichment or did not participate ($F = 34.81$, $d.f. = 1/70$, $p < .01$).

The effect of pre-score performance on post results was highly significant ($F = 33.17$, $d.f. = 1/70$, $p < .01$).

VERBAL EXPRESSION (ITPA)

An analysis of variance revealed a highly significant F in terms of the effect of the programs used within the classes on subtest performance, ($F = 6.52$, $d.f. = 6/70$, $p < .01$). (See Appendix II, Table 2-6).

A highly significant F was obtained from the interaction effect 1, 4 vs. 2, 3 showing parent program #2 more effective for participating parents than non-participating parents, ($F = 16.00$, $d.f. = 1/70$, $p < .01$).

Again, pre-score performance had a highly significant effect upon post-score results, ($F = 17.46$, $d.f. = 1/70$, $p < .01$).

I. Q. had no significant effect, ($F = 2.04$, $d.f. = 1/70$, $p > .05$).

An analysis of variance was also performed on the ten categories of responses in Verbal Expression: Labels, Colors, Shapes, Composition, Function, Major parts, Numerosity, Other Characteristics, Person, Place or Thing, and Comparisons. The analysis of these ten categories follow.

LABEL (CATEGORY ITPA)

From the least-squares analysis of variance performed on this section of the ITPA, no significant differences were found. (See Appendix II, Table 2-7).

COLOR (CATEGORY ITPA)

Two significant sources of variation were found from the analysis done on this item of the ITPA. (See Appendix II, Table 2-8). The difference between the performance of children who received language training while their parents participated in LP₁ and children who received language training while their parents failed to participate was significantly less than the difference between those children who received language training while their parents participated in LP₂ and those children who received language training while their parents failed to participate ($F = 6.76$, d.f. = 1/70, $p < .05$).

Post-test results on Color were significantly related to pre-test results ($F = 5.69$, d.f. = 1/70, $p < .05$).

SHAPE (CATEGORY ITPA)

The mean performance of children of participating parents was significantly superior to that of children of non-participating parents ($F = 4.53$, d.f. = 1/70, $p < .05$). (See Appendix II, Table 2-9).

The difference between the children of participating parents in LP₁ and children of non-participating parents of LP₂ was significantly greater than the difference between the children of non-participating parents in LP₁ and the children of participating parents in LP₂. ($F = 14.98$, d.f. = 1/70, $p < .01$).

The pre-test had a highly significant effect on the post-test score ($F = 15.20$, d.f. = $1/70$, $p < .01$).

COMPOSITION (CATEGORY ITPA)

Only I. Q. had a significant effect upon performance on this item, ($F = 4.74$, d.f. = $1/70$, $p < .05$). (See Appendix II, Table 2-10).

FUNCTION (CATEGORY ITPA)

The children of participating parents had a mean which was significantly higher than the mean of children whose parents failed to participate ($F = 4.89$, d.f. = $1/70$, $p < .05$). (See Appendix II, Table 2-11).

When assessing the importance of parent participation in the program, it was found that children of participating parents performed better in all instances ($F = 4.04$, d.f. = $2/70$, $p < .05$).

MAJOR (CATEGORY ITPA)

No significant differences were found to exist on this section of the ITPA. (See Appendix II, Table 2-12).

NUMEROSITY (CATEGORY ITPA)

An analysis of variance revealed that the difference between the means of children of non-participating parents and children of participating parents where both children and parents received language was significantly higher than the difference between the means of children who received language training while their parents received an enrichment program

and children who received language training and whose parents failed to participate ($F = 4.00$, d.f. = $1/70$, $p < .05$). (See Appendix II, Table 2-13).

Pre-test performance was significantly related to post-test performance ($F = 4.36$, d.f. = $1/70$, $p < .05$).

OTHER CHARACTERISTICS (CATEGORY ITPA)

In testing for interaction effects, the difference between children of non-participating parents in LP_1 as opposed to children of participating parents in LP_2 was very significantly greater than the difference between children of participating parents in LP_1 as opposed to children of non-participating parents in LP_2 ($F = 5.52$, d.f. = $1/70$, $p < .01$). (See Appendix II, Table 2-14).

Pre-test was highly significant to post-test ($F = 13.74$, d.f. = $1/70$, $p < .01$).

PERSON, PLACE, THING (CATEGORY ITPA)

The enrichment program was found to be significantly superior to the language programs ($F = 6.50$, d.f. = $1/70$, $p < .05$). (See Appendix II, Table 2-15). LP_2 , where all children received a language treatment and where participating parents received an enrichment treatment, was superior to LP_1 , where all children received a language treatment and where participating parents received an enrichment oriented program ($F = 8.41$, d.f. = $1/70$, $p < .05$).

There was also a significant difference between the classes within the program ($F = 20.10$, d.f. = $6/70$, $p < .01$). Greater means were

obtained in LP₂ where all children received language and participating parents received enrichment.

Interaction effects were highly significant. There was a greater difference between children of participating and non-participating parents where both children and parents received language than there was between children of participating and non-participating parents where children received language and parents received enrichment. ($F = 34.49$, d.f. = 1/70, $p < .01$):

The effects of pre-testing was highly significant as it related to the scores obtained in the post-testing ($F = 30.62$, d.f. = 1/70, $p < .01$).

COMPARISON (CATEGORY ITPA)

There were no significant differences found in this instance. None of the interaction effects were significant. (See Appendix II, Table 2-16).

GRAMMATIC CLOSURE (ITPA)

A highly significant difference was found between language-parent program #1 (LP₁) and language-parent program #2 (LP₂) in their effects on performance on this subtest. (See Appendix II, Table 2-17). Those children whose parents were involved in LP₁ performed significantly better than did their counterparts in LP₂ ($F = 15.13$, d.f. = 1/70, $p < .01$).

Again the interaction between 1, 4 vs. 2, 3 had a highly significant effect on performance on Grammatical Closure. Those children whose parents participated in the language program showed better performance for LP₁

but poorer performance for LP_2 . ($F = 28.55$, d.f. = 1/70, $p < .01$).

MANUAL EXPRESSION (ITPA)

Although there was no significant F for the interaction between classes 1, 3, 6 vs. 2, 4, 5 ($F = 2.56$, d.f. = 1/70, $p > .05$), (See Appendix II, Table 2-18), a highly significant F was found in an interaction between 1, 4 vs. 2, 3 showing a greater superiority of participating parents over non-participating parents in LP_2 than in LP_1 . ($F = 77.44$, d.f. = 1/70, $p < .01$).

The pre-score obtained had a highly significant effect on post performance, ($F = 69.98$, d.f. = 1/70, $p < .01$).

RAW SCORE (ITPA)

In the case of the Illinois Test of Psycholinguistic Abilities (ITPA), a significant difference was found as a function of programs ($F = 3.23$, d.f. = 2/70, $p < .05$). (See Appendix II, Table 2-19).

A comparison between the two language programs and the enrichment program revealed a significant difference in favor of the enrichment program ($F = 4.41$, d.f. = 1/70, $p < .05$). When LP_1 was compared with LP_2 , a highly significant difference was found. Thus, those children who received language training while their parents received enrichment performed better on the ITPA than did their counterparts who also received language training, but whose parents participated in teaching them ($F = 6.25$, d.f. = 1/70, $p < .05$).

Parental involvement alone was not significant as a factor in ITPA raw score. But a significant difference was obtained when both parental involvement and type of program, were compared ($F = 4.95$, d.f. = $2/70$, $p < .01$). There was a highly significant effect derived from the interaction of (1, 4, vs. 2, 3) where participating parents are superior to non-participating parents for LP_1 with the reverse true for LP_2 . ($F = 200.51$, d.f. = $1/70$, $p < .01$).

The ITPA pre-score was a very significant factor in post-score on this test ($F = 206.74$, d.f. = $1/70$, $p < .01$).

PSYCHOLINGUISTIC AGE SCORE (PLA, ITPA)

The Psycholinguistic Age Score is a prorated score derived from ten of the twelve subtests on the Illinois Test of Psycholinguistic Abilities. A significant difference as a function of programs was not obtained ($F = 3.10$, d.f. = $2/70$, $p > .05$). (See Appendix II, Table 2-20). However, a significant difference between programs (LP_1 , LP_2 vs. EP_2) revealed EP_2 to be more effective on the overall PLA score ($F = 4.45$, d.f. = $1/70$, $p < .05$).

In testing the difference between LP_1 and LP_2 a significant difference was found favoring LP_2 , those parents involved in parent program #2 and whose children are in the language classes ($F = 5.90$, d.f. = $1/70$, $p < .05$).

When parental involvement was combined with the effects of the two programs a significant difference in performance on the PLA was obtained ($F = 5.00$, d.f. = $2/70$, $p < .01$). However, no significant interaction

was found among classes (1, 3, 6 vs. 2, 4, 5). ($F = 3.92$, d.f. = 1/70, $p > .05$). But the interaction between types of language programs and type of parent showed that participating parents were superior to non-participating parents on LP_1 while non-participating parents were superior on LP_2 . ($F = 200.79$, d.f. = 1/70, $p < .01$).

The pre-score also was highly significant to post performance ($F = 208.95$, d.f. = 1/70, $p < .01$).

PRE-SCHOOL INVENTORY (ITPA)

From a least-squares analysis of variance performed on data from the Caldwell-Soule Pre-School Inventory (See Appendix II, Table 2-21), a significant difference was obtained as a function of programs, language and enrichment ($F = 4.76$, d.f. = 2/70, $p < .05$). A significant difference was found between the two groups, language and enrichment, with those children receiving language being superior. ($F = 6.76$, d.f. = 1/70, $p < .05$). However, no significant difference was found between LP_1 and LP_2 ($F = .58$, d.f. = 1/70, $p > .05$).

The effect of participation or non-participation of parents was found to be non-significant as a variable in the performance of children on the Pre-School Inventory ($F = 0.82$, d.f. = 1/70, $p > .05$). Also, it was found that when the interaction effect of parental participation was tested as a function of programs there was no significant difference found. However, a highly significant interaction was found between parental participation and language oriented parental involvement programs. It showed that if children were going to be given language

strengthening in the classrooms then it would be beneficial to use language strengthening in the parental involvement program ($F = 43.56$, d.f. = $1/70$, $p < .01$).

On this particular instrument the pre-score performance was highly significant as a determinant of post-score performance ($F = 43.26$, d.f. = $1/70$, $p < .05$). However, the influence of I. Q. was not significant.

ANIMAL HOUSE

From a least-squares analysis of variance performed on the Animal House phase of the WPPSI a highly significant difference was found in the performance of the children as a function of programs; language being superior to enrichment ($F = 8.06$, d.f. = $2/70$, $p < .01$). (See Appendix II, Table 2-22).

When parent program was held constant, a highly significant difference was found, the language programs being superior to the enrichment program ($F = 11.97$, d.f. = $1/70$, $p < .01$).

Pre-score on the Animal House had a highly significant effect on the post-score ($F = 49.69$, d.f. = $1/70$, $p < .01$).

I. Q. (STANFORD-BINET)

A significant variation among classes within programs was noted ($F = 7.40$, d.f. = $6/70$, $p < .01$). (See Appendix II, Table 2-23).

As would be expected a highly significant effect of pre I.Q. on post I.Q. was observed ($F = 65.42$, d.f. = $1/70$, $p < .01$).

Discussion of t-test Results

The ITPA. t-tests were run on the overall results of the children's scores on the ITPA. When the language classes were compared with the enrichment classes on three final measures, namely (1) the sum of the scaled scores, (2) the prorated sum of the scaled scores, and (3) psycholinguistic age, there were no significant differences between the classes on any of these measures. Separate t's were computed for each measure on both pre- and post-tests, and while no significance differences were found between the pre-test measures, none were found either between the post-test measures. The post-test t's were respectively, .87, .87, and .72.

Similarly, when the pre- and post-tests were compared for the language and enrichment classes there were no significant differences. The t-tests for the language classes' post-tests as compared with their pre-test scores on these same three measures were, respectively, .04, .04, and .12 or .05. For this last measure psycholinguistic age t's were computed in two ways: (a) for the average pre-test age vs. the average post-test age ($t = .12$) (b) for the average pre-test age vs. the average post-test age minus three months (the children would be expected to have language ages which were three months greater as they were also three months older ($t = .05$)). The average post-test language age was in fact 5.37 months greater than the average pre-test language age, but this gain was not significant.

The t-tests for the enrichment post-tests as compared with the enrichment pre-tests were also not significant. They were, respectively, .018, .018, and .2 or .075. Again the t-tests for the psycholinguistic age measures were computed in two ways, as was done with the language classes, but again no significant differences were found, although the average post-test psycholinguistic age for the enrichment classes was 4.77 months greater than the average pre-test psycholinguistic age.

The trend is there, i.e., both groups gained more than the expected three months, and the language classes made a greater average gain than did the enrichment classes but none of these gains was great enough to be significant. The language classes also had greater average scores on the other two measures (that is the sum of the scaled scores and the prorated sum of the scaled scores) than the enrichment classes but these differences were not significant.

Since conceivably some classes would have had significant differences and others would not, resulting in average measures cancelling the effects of each other so that no general significant differences could be obtained, a further check was made of the one class where it was believed significant results would be most apt to appear. The language class with the youngest children (Class A) seemed to be the most likely one, so t-tests were computed for this class and again no significant results were obtained. The same three final measures were compared on the post- and pre-tests with resulting t's of .020, .018, and .078 or .22. In this class even the trend toward higher post-test scores was not found. The pre- and post-test measures were within two points of each other.

The two ITPA subtests for which specific theoretical predictions had been made, namely, the Verbal Expression and Manual Expression subtests, were also subjected to t-tests, both for Class A and for the Language and Enrichment groups. In Class A these subtests also gave no significant t scores. The prediction that Verbal Expression scores would be higher and Manual Expression scores would be lower on the post-test was only half fulfilled. The Verbal Expression scores did increase, but so did the Manual Expression scores and the increase was not great enough in either case to yield significant results.

For the language classes compared with the enrichment classes, no significant differences were found in either the pre-or post-test measures of Verbal Expression. However, there was a significant (at the 5 per cent level) difference between the two kinds of classes on both the pre- and post-test measures of Manual Expression. Thus, in some unknown way the two samples, language classes and enrichment classes may have differed to begin with, and this difference showed up in the Manual Expression subtest of the ITPA. This beginning difference may also have been a factor in the subsequent lack of significant results.

When the pre-test scores were compared with the post-test scores on these subtests for the language and enrichment classes, again no significant t scores were obtained. The language classes did have a higher Verbal Expression score on the post-test than on the pre-test, while the enrichment classes remained almost the same from pre- to post-test. Both the language and enrichment classes remained almost

the same form pre- to post-test on the Manual Expression subtest. Thus, the trend towards increased Verbal Expression scores after being in the language program is there, but cannot be demonstrated at a level of significance. The prediction that Manual Expression scores will decrease is clearly not upheld.

The WPPSI. When pre- and post-test scaled score comparison of the language and enrichment classes were made, no significant differences were found on the Animal House subtest of the WPPSI. The t-tests for the language classes post-test as compared with their pre-test scores showed less significant difference on this particular instrument, than did the enrichment pre-post test comparison.

From an overall comparison of the pre and post mean scores of all language classes no significant difference was found in either the scaled score or time in seconds, t 's = -.95 and .30 respectively. A similar comparison of all enrichment pre-and post-scores revealed a significant difference (5 per cent level) in post scaled score performance and time in seconds (t = 3.50 and 2.44, respectively).

The expectation that a significant difference would occur between the final difference scores of all language classes and those of all enrichment classes was tested. However, no significant difference was found (t = 1.05). Similarly, no significant difference was found for time in seconds (t = 1.69).

Gumpgockie. The t-test was used to test the significance of differences between the scores of the enrichment and language classes on the Gumpgockie. For the pre-test a t of 1.76 was found, which was not significant. For the post-test a t of .50 also was not significant.

Similarly, t's were computed for the pre-and post-tests on the Preschool Inventory. There was no significant difference between the language and enrichment classes on the pre-test, ($t = .5$). For the post-test the enrichment class scored significantly higher than their language counterparts ($t = 2.33$, d.f. = 107, $p < .05$).

FINDINGS

Since the UHPLC involved two types of classroom training, language and enrichment, and since our analysis assessed the relevance of these programs as they relate to children of participating parents and children of none participating parents, our findings are reported in terms of these two factors.

It might be well to note that some significant increment in performance was found to exist for all test items except two-- Grammatic Closure and Manual Expression subtests of the ITPA, supporting the relevance of the total program.

A significant difference was not found to exist in all cases. It might be well to note that the language oriented parental program was found to make a significant difference more often than the enrichment oriented parental program, particularly where tests or subtests required language skills.

However, it must also be noted that superior performance by enrichment classes was also revealed.

The participation or non-participation of parents did not seem to be of much importance to the overall outcome of the program. The children of participating parents did better than the children of parents who failed to participate on Shape (Category, ITPA), and Function (Category, ITPA). Parent program two was superior to parent program one for Verbal Expression and Manual Expression.

Parental participation was found to be more effective in LP₂ as it relates positively to performance on Manual Expression and Verbal

Expression with the opposite being true for Psycholinguistic Age Score.

Some of the findings to support the relevance of the two programs follow:

The language program was superior to the enrichment program according to data gathered from Grammatical Closure (ITPA), Pre-school Inventory, and Animal House (WPPSI).

Parent program one was superior to Parent program two for Auditory Sequential Memory, Visual Association, and Grammatical Closure subtests.

Children of LP₂ were superior to children in LP₁ on performance on Raw Score, Psycholinguistic Age Score, and Person, Place or Thing test items. The opposite was true for performance on the Grammatical Closure subtest of the ITPA.

The enrichment program was superior to the language program for the following test items: Person, Place, Thing; Psycholinguistic Age Score, and Raw Score.

APPENDIX I

MEANS AND T-TESTS FOR THE INTERVENTION

TABLES 1 - 23

AUDITORY RECEPTION (ITPA)

	LP ₁ *	LP ₂ **	EP ₂ ***	Mu
Participating Parents	23.48	37.35	34.03	31.62
Non-Participating Parents	22.62	36.89	35.60	31.70
Means	23.05	37.12	34.82	31.66

t-test for significance of difference.

Participating vs. Non-Participating	t = -.008
LP ₁ , LP ₂ vs. EP ₂	t = -1.91
LP ₁ vs. LP ₂	t = -1.43
Classes 1, 3, 6 vs. 2, 4, 5	t = .082
Classes 1, 4 vs. 2, 3	t = -.028

*LP₁ = Language class one: children received a language treatment; parents received the language treatment.

**LP₂ = Language class two: children received a language treatment; parents received the enrichment treatment.

***EP₂ = Enrichment class two: children received an enrichment treatment; parents received the enrichment treatment.

VISUAL RECEPTION (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	28.80	43.93	38.81	37.18
Non-Participating Parents	22.82	43.86	39.87	35.52
Means	25.81	43.90	39.34	36.35

t-test for significance of difference

Participating vs. Non-
Participating

t = 1.15

LP₁, LP₂ vs. EP₂

t = -1.34

LP₁ vs. LP₂

t = -1.34

Classes 1, 3, 6 vs. 2, 4, 5

t = -.004

Classes 1, 4 vs. 2, 3

t = .004

AUDITORY ASSOCIATION (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	24.09	34.80	32.99	30.62
Non-Participating Parents	20.43	35.10	32.15	29.23
Means	22.26	34.95	32.57	29.92

t-test for significance of difference

Participating vs. Non-
Participating

t = 1.01

LP₁, LP₂ vs. EP₂

t = -1.22

LP₁ vs LP₂

t = - .98

Classes 1, 3, 6 vs. 2, 4, 5

t = 0.34

Classes 1, 4 vs. 2, 3

t = .61

AUDITORY SEQUENTIAL MEMORY (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	36.05	47.40	40.27	41.24
Non-Participating Parents	31.36	44.27	42.62	39.42
	33.70	45.84	41.44	40.33

t-test for significance of difference

Participating vs. Non- Participating	t = 1.31
LP ₁ , LP ₂ vs. EP ₂	t = .51
LP ₁ vs. LP ₂	t = .07
Classes 1, 3, 6 vs. 2, 4, 5	t = 1.50
Classes 1, 4 vs. 2, 3	t = -8.33

VISUAL ASSOCIATION (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	26.47	32.54	37.87	32.30
Non-Participating Parents	24.43	36.21	35.61	32.09
Means	25.45	34.38	36.74	32.19

t-test for significance of difference

Participating vs. Non- Participating	t = .13
LP ₁ , LP ₂ vs. EP ₂	t = -1.69
LP ₁ vs. LP ₂	t = -.55
Classes 1, 3, 6 vs. 2, 4, 5	t = -1.23
Classes 1, 4 vs. 2, 3	t = -5.90

VERBAL EXPRESSION (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	32.09	39.21	40.24	37.18
Non-Participating Parents	31.01	38.09	39.33	36.15
Means	31.55	38.65	39.79	36.66

t-test for significance of difference

Participating vs. Non- Participating	t = .68
LP ₁ , LP ₂ vs. EP ₂	t = -1.32
LP ₁ vs. LP ₂	t = - .49
Classes 1, 3, 6 vs. 2, 4, 5	t = .48
Classes 1, 4 vs. 2, 3	t = -4.00

LABEL (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	4.27	1.36	2.42	2.68
Non-Participating Parents	4.48	1.92	2.21	2.87
Means	4.38	1.64	2.31	2.78

t-test for significance of difference

Participating vs. Non- Participating	t = - .82
LP ₁ , LP ₂ vs. EP ₂	t = 1.28
LP ₁ vs. LP ₂	t = 1.25
Classes 1, 3, 6 vs. 2, 4, 5	t = 0
Classes 1, 4 vs. 2, 3	t = -1.90

*Category of Verbal Expression Subtest

COLOR (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	2.72	0.15	0.21	1.03
Non-Participating Parents	2.25	0.04	0.57	0.95
Means	2.49	0.09	0.39	0.99

t-test for significance of difference

Participating vs. Non- Participating	t = .22
LP ₁ , LP ₂ vs. EP ₂	t = 1.05
LP ₁ vs. LP ₂	t = .69
Classes 1, 3, 6 vs. 2, 4, 5	t = 1.12
Classes 1, 4 vs. 2, 3	t = -2.60

*Category of Verbal Expression Subtest

SHAPE (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	2.55	1.17	0.91	1.54
Non-Participating Parents	1.63	-0.17	0.92	0.79
Means	2.09	0.49	0.91	1.16

t-test for significance of difference

Participating vs. Non- Participating	t = 2.06
LP ₁ , LP ₂ vs. EP ₂	t = .45
LP ₁ vs. LP ₂	t = .48
Classes 1, 3, 6 vs. 2, 4, 5	t = 2.90
Classes 1, 4 vs. 2, 3	t = -3.87

*Category of Verbal Expression Subtest

COMPOSITION (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	1.10	-0.58	-0.12	0.13
Non-Participating Parents	1.66	-0.06	0.54	0.71
Means	1.38	-0.32	0.21	0.42

t-test for significance of difference

Participating vs. Non- Participating	t = 1.81
LP ₁ , LP ₂ vs. EP ₂	t = .42
LP ₁ vs. LP ₂	t = .56
Classes 1, 3, 6 vs. 2, 4, 5	t = .38
Classes 1, 4 vs. 2, 3	t = .41

*Category of Verbal Expression Subtest

FUNCTION (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	-8.18	19.12	21.39	10.78
Non-Participating Parents	-8.69	18.77	7.58	5.89
Means	-8.44	18.94	14.49	8.33

t-test for significance of difference

Participating vs. Non- Participating	t = 2.20
LP ₁ , LP ₂ vs. EP ₂	t = -1.79
LP ₁ vs. LP ₂	t = 1.32
Classes 1, 3, 6 vs. 2, 4, 5	t = -1.56
Classes 1, 4 vs. 2, 3	t = .08

*Category of Verbal Expression Subtest

MAJOR (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	4.36	-1.86	0.78	1.10
Non-Participating Parents	4.57	-2.00	0.15	0.91
Means	4.47	-1.93	0.46	1.00

t-test for significance of difference

Participating vs. Non-
Participating

t = .45

LP₁, LP₂ vs. EP₂

t = .95

LP₁ vs. LP₂

t = 1.78

Classes 1, 3, 6 vs. 2, 4, 5

t = .08

Classes 1, 4 vs. 2, 3

t = 0

*Category of Verbal Expression Subtest

NUMEROSITY (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	1.58	-1.79	0.40	0.06
Non-Participating Parents	2.00	-1.67	0.46	0.26
Means	1.79	-1.73	0.43	0.16

t-test for significance of difference

Participating vs. Non-
Participating

t = .77

LP₁, LP₂ vs. EP₂

t = - .66

LP₁ vs. LP₂

t = 1.43

Classes 1, 3, 6 vs. 2, 4, 5

t = 1.14

Classes 1, 4 vs. 2, 3

t = -2.0

*Category of Verbal Expression Subtest

OTHER CHARACTERISTICS (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	-1.60	2.09	0.93	0.47
Non-Participating Parents	-1.28	2.33	1.35	0.80
Means	-1.44	2.21	1.14	0.64

t-test for significance of difference

Participating vs. Non- Participating	t = 1.33
LP ₁ , LP ₂ vs. EP ₂	t = 1.36
LP ₁ vs. LP ₂	t = -1.64
Classes 1, 3, 6 vs. 2, 4, 5	t = 2.35
Classes 1, 4 vs. 2, 3	t = -3.91

*Category of Verbal Expression Subtest

COMPARISON (ITPA) *

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	0.14	0.54	0.03	0.24
Non-Participating Parents	0.33	0.43	0.07	0.28
Means	0.23	0.48	0.05	0.26

t-test for significance of difference

Participating vs. Non- Participating	t = - .09
LP ₁ , LP ₂ vs. EP ₂	t = .63
LP ₁ vs. LP ₂	t = - .13
Classes 1, 3, 6 vs. 2, 4, 5	t = 1.00
Classes 1, 4 vs. 2, 3	t = -1.00

*Category of Verbal Expression Subtest

PERSON, PLACE OR THING (ITPA)*

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	-3.23	11.18	7.48	5.12
Non-Participating Parents	-4.44	11.34	6.58	4.49
Means	-3.86	11.26	7.03	4.81

t-test for significance of difference

Participating vs. Non-
Participating

t = 1.19

LP₁, LP₂ vs. EP₂

t = -2.55

LP₁ vs. LP₂

t = -2.90

Classes 1, 3, 6 vs. 2, 4, 5

t = .49

Classes 1, 4 vs. 2, 3

t = -5.70

*Category of Verbal Expression Subtest

GRAMMATIC CLOSURE (ITPA)

	LP_1	LP_2	EP_2	μ
Participating Parents	31.82	22.22	22.25	25.43
Non-Participating Parents	30.71	23.74	25.45	26.63
Means	31.27	22.98	23.85	26.03

t-test for significance of difference

Participating vs. Non-Participating	$t = -.88$
LP_1, LP_2 vs. EP_2	$t = 1.02$
LP_1 vs. LP_2	$t = 3.89$
Classes 1, 3, 6 vs. 2, 4, 5	$t = .04$
Classes 1, 4 vs. 2, 3	$t = -5.43$

MANUAL EXPRESSION (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	27.88	36.37	39.27	34.51
Non-Participating Parents	28.45	38.73	37.22	34.80
Means	28.17	37.55	38.25	34.65

t-test for significance of difference

Participating vs. Non-
Participating

t = .24

LP₁, LP₂ vs. EP₂

t = -1.71

LP₁ vs. LP₂

t = - .77

Classes 1, 3, 6 vs. 2, 4, 5

t = -1.60

Classes 1, 4 vs. 2, 3

t = -8.80

RAW SCORE (ITPA)

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	93.92	164.06	143.08	133.69
Non-Participating Parents	75.40	169.98	142.91	129.44
Means	84.66	167.02	143.00	131.56

t-test for significance of difference

Participating vs. Non-
Participating

t = 1.21

LP₁, LP₂ vs. EP₂

t = -2.10

LP₁ vs. LP₂

t = -2.50

Classes 1, 3, 6 vs. 2, 4, 5

t = -1.85

Classes 1, 4 vs. 2, 3

t = -14.16

PSYCHOLINGUISTIC AGE SCORE

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	118.85	203.55	179.13	167.18
Non-Participating Parents	95.71	211.23	178.58	161.84
Means	107.28	207.39	178.86	164.51

t-test for significance of difference

Participating vs. Non- Participating	t = 1.21
LP ₁ , LP ₂ vs. EP ₂	t = -2.11
LP ₁ vs. LP ₂	t = -2.43
Classes 1, 3, 6 vs. 2, 4, 5	t = -1.98
Classes 1, 4 vs. 2, 3	t = -14.17

PRESCHOOL INVENTORY

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	39.55	51.79	60.44	50.59
Non-Participating Parents	35.76	54.39	56.01	48.72
Means	37.65	53.09	58.22	47.67

t-test for significance of difference

Participating vs. Non- Participating	t = .907
LP ₁ , LP ₂ vs. EP ₂	t = 2.60
LP ₁ vs. LP ₂	t = - .758
Classes 1, 3, 6 vs. 2, 4, 5	t = -1.18
Classes 1, 4 vs. 2, 3	t = 6.60

ANIMAL HOUSE

	LP ₁	LP ₂	EP ₂	Ma
Participating Parents	31.94	17.92	4.80	18.22
Non-Participating Parents	32.55	17.91	3.15	17.87
Means	32.24	17.91	3.96	18.04

t-test for significance of difference

Participating vs. Non- Participating	t = .18
LP ₁ , LP ₂ vs. EP ₂	t = 3.46
LP ₁ vs. LP ₂	t = .76
Classes 1, 3, 6 vs. 2, 4, 5	t = .41
Classes 1, 4 vs. 2, 3	t = -7.00

BINET I. Q. SCORE

	LP ₁	LP ₂	EP ₂	Mu
Participating Parents	94.54	82.94	95.13	90.87
Non-Participating Parents	95.60	82.59	89.69	89.32
Means	95.11	82.76	92.41	90.10

t-test for significance of difference

Participating vs. Non-Participating	t = .76
LP ₁ , LP ₂ vs. EP ₂	t = - .73
LP ₁ vs. LP ₂	t = .64
Classes 1, 3, 6 vs. 2, 4, 5	t = .01
Classes 1, 4 vs. 2, 3	t = -7.75

APPENDIX II

ANALYSIS OF VARIANCE CHARTS

TABLES 1 - 24

AUDITORY RECEPTION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	54.98	27.49	1.83
LP ₁ , LP ₂ vs EP ₂	1	54.79	54.79	3.65
LP ₁ vs LP ₂	1	30.62	30.62	2.04
Class / Programs*	6	129.06	70.98	4.73
Parent	1	0.09	0.09	0.01
Program x Parent	2	14.83	7.42	0.49
1, 3, 6 vs 2, 4, 5	1	9.61	9.61	.0064
1, 4 vs 2, 3	1	1.35	1.35	.0009
Pre - Score (2)	1	131.92	131.92	8.79
I.Q.	1	82.61	82.61	5.51
Error	70	1050.53	15.01	

*Used for error control

VISUAL RECEPTION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	59.07	29.53	1.05
LP ₁ , LP ₂ vs EP ₂	1	50.74	50.74	1.80
LP ₁ vs LP ₂	1	50.74	50.74	1.80
Class / Programs*	6	225.37	118.68	3.62
Parent	1	37.98	37.98	1.35
Program x Parent	2	135.22	67.61	2.40
1, 3, 6 vs 2, 4, 5	1	4.51	4.51	.000016
1, 4 vs 2, 3	1	4.51	4.51	.000016
Pre - Score (3)	1	441.54	441.54	15.68
I.Q.	1	78.06	76.056	2.70
Error	70	1971.08	28.19	

*Used for error control

AUDITORY ASSOCIATION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	39.01	19.51	.76
LP ₁ , LP ₂ vs EP ₂	1	38.42	38.42	1.49
LP ₁ vs LP ₂	1	24.76	24.76	.96
Class / Programs*	6	224.08	37.35	1.45
Parent	1	26.68	26.68	1.03
Program x Parent	2	42.25	21.13	.82
1, 3, 6 vs 2, 4, 5	1	2.99	2.99	.116
1, 4 vs 2, 3	1	9.59	9.59	.372
Pre-Score ()	1	1001.48	1001.48	38.84
I.Q.	1	66.11	66.11	2.56
Error	70	1805.19	25.79	

*Used for error control

AUDITORY SEQUENTIAL MEMORY (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	23.64	11.82	0.46
LP ₁ , LP ₂ vs EP ₂	1	6.71	6.71	.26
LP ₁ vs LP ₂	1	1.29	1.29	.005
Class / Programs *	6	313.52	143.86	5.57
Parent	1	45.25	45.25	1.75
Program x Parent	2	116.13	58.06	2.25
1, 3, 6 vs 2, 4, 5	1	58.07	58.07	2.25
1, 4 vs 2, 3	1	1790.95	1790.95	69.39
Pre - Score (5)	1	1861.06	1861.06	72.104
I.Q.	1	31.65	35.65	1.23
Error	70	1806.744	25.81	

*Used for error control

VISUAL ASSOCIATION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	147.09	73.54	1.84
LP ₁ , LP ₂ vs EP ₂	1	2.37	2.37	.017
LP ₁ vs LP ₂	1	113.99	113.99	2.86
Class / Programs *	6	251.31	116.87	2.93
Parent	1	0.61	0.61	0.02
Program x Parent	2	118.39	59.20	1.48
1, 3, 6 vs 2, 4, 5	1	60.19	60.19	1.51
1, 4 vs 2, 3	1	1387.53	1387.53	34.81
Pre - Score (6)	1	1322.17	1322.17	33.17
I.Q.	1	77.60	77.60	1.95
Error	70	2790.31	39.86	

*Used for error control

VERBAL EXPRESSION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	64.59	32.30	1.02
LP ₁ , LP ₂ vs EP ₂	1	58.81	58.81	1.74
LP ₁ vs LP ₂	1	7.56	7.56	.24
Class / Programs*	6	586.07	205.29	6.52
Parent	1	14.65	14.65	0.46
Program x Parent	2	0.12	0.06	0.00
1, 3, 6 vs 2, 4, 5	1	7.02	7.02	.23
1, 4 vs 2, 3	1	504.00	504.00	16.0
Pre - Score (7)	1	549.92	549.92	17.46
I.Q.	1	82.67	82.67	2.62
Error	70	2205.05	31.50	

*Used for error control

LABEL (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	1.36	0.63	0.96
LP ₁ , LP ₂ vs. EP ₂	1	1.66	1.66	1.64
LP ₁ vs. LP ₂	1	1.11	1.11	1.56
Class/Programs**	6	5.07	2.65	3.73
Parent	1	0.48	0.48	0.68
Program x Parent	2	1.40	0.70	0.90
1, 3, 6 vs. 2, 4, 5	1	0	0	0
1, 4 vs. 2, 3	1	2.56	2.56	3.61
Pre-Score (13)	1	2.30	2.30	3.23
I. Q.	1	1.40	1.40	1.96
Error	70	49.72	0.71	

*Category of Verbal Expression Subtest

**Used for error control

COLOR (ITPA) *

Source	d.f.	s.s.	m.s.	F
Total	33	-	-	-
Programs	2	2.00	1.00	0.56
LP ₁ , LP ₂ vs. EP ₂	1	1.96	1.96	1.10
LP ₁ vs. LP ₂	1	.35	.35	.48
Class/Programs**	6	4.70	2.71	1.52
Parent	1	0.03	0.03	0.04
Program x Parent	2	1.48	0.74	0.42
1, 3, 6 vs. 2, 4, 5	1	2.23	2.23	1.25
1, 4 vs. 2, 3	1	12.03	12.03	6.76
Pre-Score (14)	1	10.15	10.15	5.69
I. Q.	1	0.01	0.01	0.00
Error	70	124.82	1.78	

*Category of Verbal Expression Subtest

**Used for error control

SHAPE (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	0.43	0.21	0.13
LP ₁ , LP ₂ vs. EP ₂	1	.34	.34	.20
LP ₁ vs. LP ₂	1	.39	.39	.23
Class/Programs**	6	5.26	1.17	0.69
Parent	1	7.66	7.66	4.53
Program x Parent	2	4.26	2.13	1.26
1, 3, 6 vs. 2, 4, 5	1	14.21	14.21	8.41
1, 4 vs. 2, 3	1	25.32	25.32	14.98
Pre-Score (15)	1	25.71	25.71	15.20
I. Q.	1	0.32	0.32	0.19
Error	70	118.40	1.69	

*Category of Verbal Expression Subtest

**Used for error control

COMPOSITION (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	0.44	0.22	0.16
LP ₁ , LP ₂ vs. EP ₂	1	.25	.25	.13
LP ₁ vs. LP ₂	1	.43	.43	.31
Class/Programs**	6	2.03	1.39	1.38
Parent	1	4.61	4.61	3.35
Program x Parent	2	0.04	0.02	0.01
1, 3, 6 vs. 2, 4, 5	1	.19	.19	.14
1, 4 vs. 2, 3	1	.23	.23	.17
Pre-Score (17)	1	0.23	0.23	0.16
I.Q.	1	6.53	6.53	4.74
Error	70	96.35	1.38	

*Category of Verbal Expression Subtest

**Used for error control

FUNCTION (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	214.62	107.31	1.61
LP_1 , LP_2 vs. EF_2	1	213.76	213.76	3.20
LP_1 vs. LP_2	1	116.23	116.23	1.74
Class/Programs**	6	967.76	460.29	7.01
Parent	1	326.49	326.49	4.89
Program x Parent	2	540.44	270.22	4.04
1, 3, 6 vs. 2, 4, 5	1	162.32	162.32	2.43
1, 4 vs. 2, 3	1	.43	.43	.0064
Pre-Score (18)	1	0.49	0.49	0.01
I.Q.	1	3.95	3.95	0.06
Error	70	4675.67	66.80	

*Category of Verbal Expression Subtest

**Used for error control

MAJOR (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	6.83	3.42	1.72
LP ₁ , LP ₂ vs. EP ₂	1	1.78	1.78	.90
LP ₁ vs. LP ₂	1	6.28	6.28	3.17
Class/Programs**	6	16.49	10.44	5.26
Parent	1	0.46	0.46	0.23
Program x Parent	2	1.43	0.72	0.36
1, 3, 6 vs. 2, 4, 5	1	1.27	1.27	.0064
1, 4 vs. 2, 3	1	0	0	0
Pre-Score (19)	1	0.01	0.01	0.01
I.Q.	1	5.07	5.07	2.56
Error	70	138.95	1.98	

*Category of Verbal Expression Subtest

**Used for error control

NUMEROSITY (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	7.14	3.57	4.06
LP ₁ , LP ₂ vs. EP ₂	1	.39	.39	.44
LP ₁ vs. LP ₂	1	1.93	1.93	2.19
Class/Programs**	5	13.49	6.21	7.06
Parent	1	0.513	0.513	0.53
Program x Parent	2	0.313	0.157	0.13
1, 3, 6 vs. 2, 4, 5	1	1.14	1.14	1.30
1, 4 vs. 2, 3	1	3.52	3.52	4.00
Pre-Score (20)	1	3.83	3.83	4.36
I.Q.	1	1.93	1.93	2.19
Error	70	61.56	0.88	2.19

*Category of Verbal Expression Subtest

**Used for error control

OTHER CHARACTERISTICS (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	2.13	1.06	1.40
LP ₁ , LP ₂ vs. EP ₂	1	1.40	1.40	1.04
LP ₁ vs. LP ₂	1	2.04	2.04	2.69
Class/Programs**	6	7.92	4.33	5.67
Parent	1	1.42	1.42	1.86
Program x Parent	2	0.07	0.04	0.05
1, 3, 6 vs. 2, 4, 5	1	4.20	4.20	5.52
1, 4 vs. 2, 3	1	11.62	11.62	15.29
Pre-Score (21)	1	10.48	10.48	13.74
I.Q.	1	0.00	0.00	0.00
Error	70	53.37	0.76	

*Category of Verbal Expression Subtest

**Used for error control

COMPARISON (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	0.59	0.29	0.50
LP ₁ , LP ₂ vs. EP ₂	1	.24	.24	.40
LP ₁ vs. LP ₂	1	.01	.01	.02
Class/Programs**	6	0.26	0.12	0.20
Parent	1	0.02	0.02	0.03
Program x Parent	2	0.24	0.12	0.21
1, 3, 6 vs. 2, 4, 5	1	.59	.59	1.00
1, 4 vs. 2, 3	1	.59	.59	1.00
Pre-Score (22)	1	0.60	0.60	1.02
I.Q.	1	0.97	0.97	0.16
Error	70	41.24	0.59	

*Category of Verbal Expression Subtest

**Used for error control

PERSON, PLACE, OR THING (ITPA)*

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	35.77	17.89	4.43
LP ₁ , LP ₂ vs. EP ₂	1	26.26	26.26	6.50
LP ₁ vs. LP ₂	1	33.98	33.98	8.41
Class/Programs**	1	156.40	55.49	20.10
Parent	1	5.44	5.44	1.35
Program x Parent	2	5.31	2.65	0.66
1, 3, 6 vs. 2, 4, 5	1	.97	.97	.24
1, 4 vs. 2, 3	1	131.26	131.26	32.49
Pre-Score (23)	1	123.63	123.63	30.62
I.Q.	1	6.63	6.63	1.64
Error	70	282.60	4.04	

*Category of Verbal Expression Subtest

**Used for error control

GRAMMATIC CLOSURE (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	26.66	13.33	0.53
LP ₁ , LP ₂ vs EP ₂	1	25.98	25.98	1.04
LP ₁ vs LP ₂	1	377.95	377.95	15.13
Class / Programs*	6	45.18	22.22	.89
Parent	1	19.34	19.34	0.77
Program x Parent	2	42.53	21.26	0.85
1, 3, 6 vs 2, 4, 5	1	.039	.039	.0016
1, 4 vs 2, 3	1	869.07	869.07	29.48
Pre - Score (8)	1	713.10	713.10	28.55
I.Q.	1	50.91	50.91	2.04
Error	70	1748.56	24.98	

*Used for error control

MANUAL EXPRESSION (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	73.08	36.54	1.70
LP ₁ , LP ₂ vs. EP ₂	1	62.69	62.69	2.92
LP ₁ vs. LP ₂	1	12.67	12.67	.059
Class/Programs *	6	122.32	53.83	2.51
Parent	1	1.16	1.16	0.05
Program x Parent	2	47.05	23.53	1.10
1, 3, 6 vs. 2, 4, 5	1	54.96	54.96	2.56
1, 4 vs. 2, 3	1	1662.64	1662.64	77.44
Pre-Score (9)	1	1502.65	1502.65	69.98
I. Q.	1	4.12	4.12	0.19
Error	70	1503.18	21.47	

*Used for error control

RAW SCORE (ITPA)

Source	d.f.	s.s.	m.s.	F
Total	83	-	-	-
Programs	2	1084.94	542.47	3.23
LP ₁ , LP ₂ vs. EP ₂	1	740.13	740.13	4.41
LP ₁ vs. LP ₂	1	1048.94	1048.94	6.25
Class/Programs*	6	5520.71	2924.92	17.43
Parent	1	245.91	245.91	1.465
Program x Parent	2	1661.26	830.63	4.95
1, 3, 6 vs. 2, 4, 5	1	573.98	573.98	3.42
1, 4 vs. 2, 3	1	40204.26	40204.26	200.51
Pre-Score (10)	1	34696.91	34696.91	206.74
I. Q.	1	117.71	117.71	0.70
Error	70	11747.84	167.83	

*Used for error control

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PSYCHOLINGUISTIC AGE SCORE (ITPA)

Source	d.f.	s.s.	s.s.	F
Total	83	-	-	-
Programs	2	1627.30	813.65	3.10
LP ₁ , LP ₂ vs. EP ₂	1	1167.10	1167.10	4.45
LP ₁ vs. LP ₂	1	1547.39	1547.39	5.90
Class/Programs*	6	8546.37	4400.86	16.78
Parent	1	387.14	387.14	1.48
Program x Parent	2	2623.66	1311.83	5.00
1, 3, 6 vs. 2, 4, 5	1	1028.10	1028.10	3.92
1, 4 vs. 2, 3	1	52661.10	52661.19	200.79
Pre-Score (11)	1	54802.43	54802.43	208.95
I.Q.	1	184.70	184.70	0.70
Error	70	10350.92	262.27	

*Used for error control

PRESCHOOL INVENTORY

Source	d.f.	s.s.	m.s.	F
Total	83			
Programs	2	552.52	276.26	4.76
LP ₁ , LP ₂ vs. EP ₂	1	393.96	393.96	6.76
LP ₁ vs. LP ₂	1	33.65	33.65	.58
Class/Programs*	6	567.22	94.54	1.04
Parent	1	47.74	47.74	0.82
Program x Parent	2	161.73	80.86	1.39
1, 3, 6 vs. 2, 4, 5	1	80.65	80.65	1.39
1, 4 vs. 2, 3	1	2527.35	2527.35	43.56
Pre-Score (1)	1	2510.12	2510.12	43.26
I.Q.	1	13.00	13.00	0.31
Error	70	4061.76	58.02	

*Used for error control

ANIMAL HOUSE

Source	d.f.	s.s.	m.s.	F
Total	33	-	-	-
Programs	2	836.12	418.06	3.06
LP ₁ , LP ₂ vs. EP ₂	1	621.00	621.00	11.97
LP ₁ vs. LP ₂	1	29.97	29.97	.5776
Class/Programs*	6	914.50	335.91	6.48
Parent	1	1.65	1.65	0.03
Program x Parent	2	12.20	6.10	0.12
1, 3, 6 vs. 2, 4, 5	1	0.72	0.72	.1681
1, 4 vs. 2, 3	1	2542.12	2542.12	49.00
Pre-Score (12)	1	2577.85	2577.85	49.69
I.Q.	1	36.28	36.28	0.70
Error	70	3631.67	51.88	

*Used for error control

BINET I. Q. SCORE

Source	d.f.	s.s.	m.s.	F
Total	03	-	-	-
Programs	2	135.25	92.62	1.60
LP ₁ , LP ₂ vs. EP ₂	1	30.75	30.75	.53
LP ₁ vs. LP ₂	1	23.79	23.79	.41
Class/Programs*	6	852.66	429.45	7.40
Parent	1	33.13	33.13	0.57
Program x Parent	2	105.84	52.92	0.91
1, 3, 6 vs. 2, 4, 5	1	.0053	.0053	.0001
1, 4 vs. 2, 3	1	3484.68	3484.68	60.06
Pre-Score (16)	1	3795.69	3795.69	65.42
I. Q.				
Error	71	4119.64	58.02	

*Used for error control

TABLE 2-24

SIGNIFICANCE OF DIFFERENCES BETWEEN PRE AND POST TESTS

Instrument	F*	p - value
Auditory Reception	56.02	<.01
Visual Reception	23.19	<.01
Auditory Association	23.21	<.01
Auditory Sequential Memory	7.67	<.01
Visual Association	16.50	<.01
Verbal Expression	28.53	<.01
Grammatic Closure	2.99	>.05
Manual Expression	1.42	>.05
Raw Score	6.81	<.05
Psycholinguistic Age Score	6.23	<.05
Label	60.81	<.01
Color	46.48	<.01
Shape	8.18	<.01
Composition	30.42	<.01
Function	15.17	<.01
Major	624.47	<.01
Numerosity	69.00	<.01
Other Characteristics	24.98	<.01
Comparison	148.85	<.01
Person, Place, Thing	17.14	<.01
Preschool Inventory	12.92	<.01
Animal House (WPPSI)	8.87	<.01
I. Q. Score (Binet)	23.80	<.01

*F of 3.98 is significant at the 5% level

F of 7.01 is significant at the 1% level

APPENDIX III

ABSTRACT*

The Role of Incentives in Discrimination Learning of
Children with Varying Preschool Experience

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The present experiment examined the relationship between levels of preschool experience and performance on a discrimination learning task as a function of various conditions of reinforcement. The Ss were Negro children of preschool age. Children enrolled in a Head Start program for either 1-3 months or 10-12 months learned faster than matched non-H.S. children. Non-H.S. children learned faster under immediate reward conditions than under promised reward conditions. Results were interpreted as indicating beneficial consequences of the H.S. program.

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The Role of Incentives in Discrimination Learning of
Children with Varying Preschool Experience¹

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The role of incentives on children's performance has received much experimental attention. The present experiment extends such research to Negro children from low socioeconomic backgrounds. In lower socioeconomic class families training techniques employ immediate reward or punishment (Leshan, 1952). Children who undergo such training tend to become unable, or at best unlikely, to work for long-range goals. Leshan speculates that an individual who is raised in an environment where rewards and punishments generally follow immediately upon acts will tend to develop low tolerance for frustration. In the upper-middle, middle, and upper-lower classes there is more stress on the future.

Terrell and Kennedy (1957) studied the differential effects of five incentives on children's acquisition and transposition of a button-pressing response to the larger of two three-dimensional geometric forms. The incentives utilized were praise, immediate reward

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(candy), reproof, delayed reward (candy), and a light flash. Their results indicated that preschool children assigned to the immediate reward condition learned the concept "larger than" significantly faster than did Ss of all other groups. In a later study Terrell (1958) compared the effectiveness of immediate reward and two types of delayed incentives: promise of future reward, and a token reward which could later be cashed in for a real reward. One finding was that preschool children who were given only a promise of future reward required significantly more trials to learn the task. Comparison of the light-only condition in the earlier experiment with the later experiment revealed an interesting finding related to socioeconomic class. While in the earlier study the light-only children required significantly more trials to learn the concept than did any of the other groups; in the later study these children learned just as quickly in the token and in the immediate reward groups. The principal difference between the children in the two experiments was in their socioeconomic background. The children in the second experiment were from a higher socioeconomic background, and good performance was, presumably, valued regardless of the external incentive offered.

The present study attempted to ascertain whether or not culturally disadvantaged preschool children have learned, as a function of their participation in a Head Start (H.S.) program, a more future-related orientation than comparable non-H.S. children. The following

hypotheses were proposed:

1. Head Start children will learn faster than their non-H.S. counterparts under all incentive treatment conditions; and
2. All of the children will perform best under the immediate reward condition.

METHOD

Subjects

The investigation utilized 187 children from the central area of Louisiana. There were 94 four-year-olds and 93 five-year-olds. Subjects were drawn from the following three populations: (1) children with 1-3 months of H.S. experience (H.S. I), (2) children with 10-12 months of H.S. experience (H.S. II), and (3) children who had never attended a preschool but who were matched in terms of age, sex, race, and socioeconomic background with the H.S. children (N-H.S.). Boys and girls were distributed evenly at each age and treatment level.

Apparatus

The apparatus was a modification of one used by Terrell (1958) and consisted of a background and panel board. The background board was 16 1/2 x 25 1/2 inches in size, and it contained two jacks and two push-button mounts. The two buttons were 12 inches apart; each was 2 inches from the side and 2 inches from the front edge of

the background board. The jacks were in line with the push-button mounts and were 11 1/2 inches from the front edge. A 10 1/2 X 16 3/4 inch panel board which contained a signal light was located behind the background board. The signal light was a standard flashlight bulb which was mounted in the center of the panel board. Pushing the button on the same side as the larger stimulus would turn the signal light on.

The stimuli consisted of four pairs of three-dimensional geometric forms: a triangle, a square, a circle, and a half-circle. The smaller object of each stimulus pair had a basal area of 4 square inches whereas the larger object had a basal area of 8 square inches. The stimulus pairs were presented unmixed in terms of shape but mixed in terms of size. For example, the large and small squares were presented together, but a square and a circle were never presented together. The order of presentation of the stimulus pairs and the position of the positive stimulus was randomized. As a further control for the possible influence of order effects, half of the children received the stimuli in a reversed order.

Design

The incentive conditions were as follows: Group I children received only the light flash as their reward; Group II children received a promise of a future reward (candy) following completion of the experiment; Group III children received a piece of M & M candy

immediately after each correct response; and Group IV children watched E transfer a dried bean from one jar to another following a correct response. The Group IV Ss were told that they could exchange the beans for candy at the conclusion of the session.

The experimental design thus consisted of two levels of chronological age (4 and 5 years), four incentive conditions (light only, long delay, immediate reward, and token reward), and three levels of preschool experience (0, 1-3 months, and 10-12 months).

Procedure

The subjects were individually tested. Each S received the following instructions:

"This is a game I want you to try. Choose one of these (E pointed to the stimuli) and show me which one you have chosen by pressing the button in front of it. If you are right this light (E pointed to the light) will go on. If you are wrong the light will not go on. Now remember, the game is to see how quickly you can learn to choose the block that makes the light go on."

The last sentence was repeated after every tenth trial. Groups II, III, and IV were given the following additional instructions:

Group II

"When we finish playing I will count the number of times you made the light go on. For each time it went on I will give you a piece of candy."

Group III

"Each time you make the light go on I will give you a piece of candy."

Group IV

"Each time you make the light go on I will put a bean in this jar. When we finish the game, I will give you a piece of candy for each bean you have in your jar."

In order to insure that Ss were choosing the geometric form rather than the button, Ss were instructed to point to the form they had chosen prior to pushing the button on the first 4 trials. The criterion of success was nine out of ten successive correct responses. Testing was terminated if criterion had not been reached after 100 trials.

RESULTS AND DISCUSSION

The data, trials to criterion, were analyzed by means of a factorial analysis of variance. A significant F ratio was obtained for levels of preschool experience ($F = 7.43$, $d.f. = 2$ and 163 , $p < .01$). In order to determine the exact nature of the differences between groups, a Scheffé test was calculated (Edwards, 1967). Children in both the H.S. I group and the H.S. II group learned significantly faster than the children in the N-H.S. group ($t' = 3.08$, $t = 3.76$, $p < .01$; and $t' = 2.47$, $t = 3.01$, $p < .05$ respectively). No significant differences were obtained between the performances of the two H.S. groups. The most straight-forward

interpretation of the difference found between the H.S. groups and the N-H.S. group would be that the Head Start program benefited the former children in a way which was made evident by the discrimination learning task. The absence of a difference between the two Head Start groups would suggest that the benefits were obtained early in the program. There is, however, the possibility that the matching of Ss beforehand was inadequate and that the groups differed on some other relevant dimension, such as interest in, or motivation for, learning.

Even though an overall significant F was not obtained for the incentive treatment condition, prior-planned individual comparisons were conducted. A series of Scheffé tests were calculated among all possible combinations of the N-H.S. group's performances under each of the four incentive conditions; i.e. light vs. promise, light vs. token, etc. There was significantly faster learning under the immediate reward condition than under the promise condition ($t' = 3.37$, $t = 3.48$, $p < .05$). While no other treatment comparisons reached statistical significance, trends were in general agreement with expectations. Children performed best when given candy immediately after a correct response; second best under the light only condition; third best under the token condition; and worst when given a promise of candy later. Identical computations were performed on the H.S. children's data and no significant differences were found. These results, in view of the overall non-significant F, should be interpreted with caution,

but they do lend partial support to Hypothesis II. Mean scores to criterion for the H.S. and N-H.S. groups, as a function of incentive condition, are presented in Table I. (Table I is appended to the references for this study.)

The difference found between incentive treatments for N-H.S. children may indicate they were relatively more distrustful of the promises of adults. The Head Start program is presumably one that provides children with more experiences with adults who are consistent and trustworthy. Also, the N-H.S. Ss might have responded differentially to the incentives because extrinsic, rather than intrinsic, rewards were more potent determinants of their behavior. Finally, it may have been that N-H.S. children, whose experience had presumably been less structured and predictable, were less future-oriented than the H.S.

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TABLE I

Mean Trials to Criterion as a Function of Incentive
Condition and Preschool Experience

Group	<u>Incentive Condition</u>				$\bar{x}$
	Light	Promise	Candy	Token	
H - H.S.	26.35	44.01	19.70	29.10	29.79
H.S. - I	20.69	16.19	15.63	17.44	17.49
H.S. - II	17.50	19.25	15.50	19.92	18.06
$\bar{x}$	21.54	26.48	16.94	22.15	

APPENDIX IV

ABSTRACT*

The Relationship Between Race and Perception of
Racially-Related Stimuli in Preschool Children

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White and Negro preschool children first evaluated 40 assorted objects for their positive or negative affect quality by placing the objects before a painted smiling face or a painted frowning face. Though racial differences between groups were predicted, none were found. The children subsequently made guesses as to which of two boxes, a white one or a black one, contained the different objects. Both groups tended to guess that the negatively-evaluated objects were located in the black box and the positively-evaluated objects were located in the white box, but the effect was more evident for white children than for Negro children. The results were related to the introjection of racial stereotypes by children.

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The Relationship Between Race and Perception of Racially-Related Stimuli in Preschool Children*

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Several studies (Morland, 1962; Stevenson and Stewart, 1958; Goodman, 1952; Ammons, 1950; Radke, Trager, and Davis, 1949; Horowitz, 1939; and Criswell, 1939) have provided substantial evidence that racial awareness, including differential preference, is pervasive and that it develops very early in life. Many prominent psychologists have commented upon the unfortunate consequences for the Negro child of internalizing the unfavorable racial attitudes of the larger society into his own psychological makeup. Bronfenbrenner (1967) has stated, "Not only does the Negro child feel powerless; he feels worthless as well. At the core of this sense of inferiority is the awareness of being black. From the age of 3 onward, Negro children begin to prefer white skin to black and to think of Negroes in general and themselves in particular as ugly, unwanted, and 'bad'." Landreth and Johnson (1953) have noted, "Though living in a democracy,

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Many Negro citizens apparently learn by three years of age that skin color is important, that white is to be desired, dark to be regretted."

In order to assess racial attitudes in white preschool children, Williams and Roberson (1967) combined story-telling with pictures of white and black animals or persons, and asked the children such questions as, "Which horse is bad?" "Which is the pretty girl?" etc. They reported that 86.5% of the children scored in a prejudiced direction. Black figures were evaluated as "bad," "ugly," "dirty," "naughty," "stupid," and "mean." White figures, on the other hand, were evaluated as "good," "happy," "nice," and "clean." This study and two others (Williams, 1966; Renninger and Williams, 1966) demonstrated that the colors black and white by themselves, have connotative meanings which are substantially similar to the meanings commonly associated with racial membership. The color-meaning factor may act as either a contributing or a reinforcing factor for prejudice.

The present study involved two stages: first, a normative study which compared white and Negro children's evaluations of assorted objects, and second, an experiment to see whether or not good objects were associated with white stimuli and bad objects were associated with black stimuli. Differences in evaluations of objects were expected on the basis that white and Negro children have different cultural and experiential backgrounds. The second part of the investigation is related to children's introjections of racial stereotypes and is pertinent to the development of positive or negative self-concepts of white and Negro children.

METHOD

On the normative study, 37 Negro children from one local Head Start Center were tested; and two groups of white children were tested; 16 from one private, segregated school, and 14 from another private, segregated school. Male and female children were represented equally. The first private preschool served families of a higher socioeconomic position than the second private preschool, but the families involved were all from the lower end of the socioeconomic spectrum.

Forty objects were presented one at a time to each child. The objects selected by the experimenter were chosen for study because of their presumed positive or negative affect quality. Children indicated their judgment by placing objects in front of either a painted smiling face or a painted frowning face. Objects which were judged spontaneously as good or bad by the child were scored as either +2 or -2. If E had to ask the child whether an object was good or bad, the judgment was scored as either +1 or -1. Finally, if the child reversed his judgment on an object, it was scored as 0. In order to facilitate statistical analysis, +3 was added to each score; thus in the averages presented in Table I a score of 1 = a very negative evaluation; 2 = a negative evaluation; 3 = a neutral evaluation; 4 = a positive evaluation; 5 = a very positive evaluation. The order of presentation of objects was varied between children in both the first and second study.

The second study related the evaluations of the objects to children's guesses as to which box the object was in, a white box or a black box. Several weeks after gathering the normative data, E again tested each child. The procedure was to place a white and a black box (6" X 7" X 9" each) on a table before the child. Each box had been filled with identical objects and then nailed shut. The E informed the child that different objects were in the boxes and that he was to guess which object was in which box. The E turned each box over several times in order to provide auditory cues to the child. The E presented the objects one at a time, and the child responded by indicating which box he thought contained a duplicate of the object. The E said, "There's another one of these in one of the boxes, which one did you hear it in?" After each of the child's responses, E said, "OK" with minimal affect. After the testing, each child was given a lollipop and asked not to discuss the proceedings with the other children.

Thirty white and thirty-six black children were included in the second study. Only the 22 objects which had elicited a clear evaluative response, positive or negative, were presented to the child.

RESULTS AND DISCUSSION

The Normative Study. The forty objects and their average ratings by group are presented in Table I. (Table I is appended to the references for this study.)

Comparisons of ratings for each object were made between the three groups. The statistical procedure was to first perform an analysis of variance between groups for each object, and then, on statistically significant objects, to perform orthogonal comparisons. None of the objects were differentially rated by the two racial groups. Although differences had been expected, the results were consistent with an earlier study by Stabler, Spruill, and Eakin (1967). The absence of differences indicated that local white and Negro sub-cultures are essentially similar in their effects on these particular evaluative processes of children.

Two items elicited significantly different responses between the two white groups: the toy car and the knife. Since the primary interest of the second stage of the research involved racial comparisons, these two items were eliminated from the experimental study.

White and Black Boxes. The underlying premise of the second study was that children would generalize black to Negro and white to Caucasian, and that attitudes toward race would thereby be indicated by the decisions of the children. This assumption was supported by spontaneous comments of the children. For example, when a white girl volunteered that "the bad things go in here" (pointing to the black box), E asked her why she thought the black box was for bad things and she replied, "Mommy doesn't like niggers." Experimental evidence of a functional link between attitudes towards white and black and racial attitudes has been reported by Edwards and Williams (1968). The present procedure provided a structured and disguised measure of children's attitudes toward race (Campbell, 1950).

A χ^2 analysis was performed which collapsed the data over race and tested to see whether or not any objects had been "placed," i.e., guessed as present, significantly more often in one of the boxes. One object, the scorpion, was found to have been placed more often in the black box ($\chi^2 = 4.38$, $df = 1$, $p < .05$). (The marble and the comb were placed most often in the white box but the actual number of placements was short of statistical significance.) A related χ^2 analysis was then performed to find whether or not there was differential placement of objects when each race was considered separately. The objects were not placed differentially in the boxes by Negro children but white children significantly more often placed the comb ($\chi^2 = 4.04$, $df = 1$, $p < .05$) and the winner's trophy ($\chi^2 = 4.04$, $df = 1$, $p < .05$) in the white box and the crawfish ($\chi^2 = 5.64$, $df = 1$, $p < .05$) in the black box. (The scorpion was also placed more often in the black box by white children but the χ^2 was just short of statistical significance.)

The data were also analyzed by means of a 2 X 2 Analysis of variance mixed design, with Race as "between" and Object Value as "within" treatments. The basic score involved was the number of objects "guessed" in the white box by each S. No statistically significant difference was found in the racial comparison. There was, however, a statistically significant tendency for the children to guess that positively evaluated objects were more often in the white box than negative objects. ($d.f. = 1$ and 64; $F = 11.53$; $p = .01$.) A graph of the means showed that white SS most often guessed that positive objects were in the white box ($\bar{X} = 6.9$) and least often guessed that negative objects were in the white box ($\bar{X} = 4.2$). Black children also guessed more often that

the positive objects were in the white box ($\bar{X} = 5.9$) than were negative objects ($\bar{X} = 5.3$) but the difference between means for the black children was less than the difference between means for the white children.

Cognitive dissonance theories in social psychology maintain that there is a drive for cognitive consistency which in the present case would presumably lead to such an ordering of thoughts as, "Black is bad; I'm black; therefore I'm bad," etc. The evaluations our culture has for the colors black and white may be a source of conflict in the early formation of self-concepts of Negro children. The destructive, unrealistic, and undemocratic aspects of the situation have long been deplored by psychologists and educators. Considering the importance of the issue, and the small number of empirical studies in the area, there is a need for more extensive, programmatic research related to racial identification and the development of self-concepts during the early formative years of growth.

The basic prediction, that children would guess that the "good" objects were in the white box and that the "bad" objects were in the black box, was supported by the data. The data for white Ss, however, was more in agreement with theoretical predictions than was the data for Negro Ss. Apparently, the Negro children performed much the same as did the white children, but they did so less consistently. The evidence from this study suggests that the racial attitudes of the larger society have been incorporated by preschool children of both races, but by white children more so than by Negro children.

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TABLE I
RATINGS OF OBJECTS FOR ALL GROUPS

<u>Object</u>	<u>White (PKK)</u>	<u>White (JGP)</u>	<u>Negro</u>
1. Toy dog	5.00	4.71	4.46
2. Rubber snake ^a (-) ^b	1.25	2.00	1.84
3. Nickel (+)	4.88	5.00	4.72
4. Vomit (plastic) (-)	1.88	1.64	2.43
5. Lollipop (+)	4.81	4.86	4.56
6. Skull (plastic) (-)	1.50	1.86	2.57
7. Bracelet	5.00	4.71	4.49
8. Gun	3.25	3.71	4.05
9. Toy Car	5.00	4.07	4.76
10. Smashed tin can (-)	1.75	2.57	2.16
11. Toy watch (+)	5.00	4.71	4.59
12. Whip scorpion (-)	1.50	1.00	1.56
13. Balloon (+)	4.87	4.93	4.73
14. Knife	1.56	3.07	2.92
15. Scissors	3.81	4.00	3.46
16. Spider (-)	1.75	1.57	1.46
17. Necklace	4.93	4.71	4.59
18. Toilet (plastic, small)	4.50	4.21	4.48
19. Yoyo (+)	4.50	4.86	4.68
20. Crawfish (-)	1.25	1.57	1.76
21. Toy airplane	4.75	4.43	4.62
22. Cigarette butt (-)	1.75	2.78	2.40
23. Harmonica (+)	5.00	4.43	4.76

TABLE I (Cont'd.)

<u>Object</u>	<u>White (PKK)</u>	<u>White (JGP)</u>	<u>Negro</u>
24. Razor blade	2.44	3.21	2.68
25. Marble (+)	5.00	4.43	4.62
26. Scorpion (-)	1.50	1.86	1.49
27. Matches	2.12	3.14	2.78
28. Bullet	3.56	3.64	3.78
29. Ring (+)	4.50	4.86	4.78
30. Syringe	2.56	2.57	2.94
31. Pencil	4.50	3.71	4.49
32. Dirty tissue (-)	1.50	2.64	1.73
33. Flower (plastic)	4.75	4.07	4.49
34. Dice	4.88	4.43	4.03
35. Winner's trophy (+)	4.75	4.43	4.46
36. Worm (plastic)	2.50	2.00	2.59
37. Comb (+)	4.31	4.43	4.78
38. Sticker (plant seed with sharp points)	3.19	3.00	2.19
39. Bubble gum (+)	4.69	4.43	4.65
40. Rat (plastic) (-)	2.12	2.21	2.49

- a. Unless otherwise indicated, animals were actual specimens.
- b. All objects used in the second study are followed by a + or - indicating valence.